Miscellaneous Box 1. (21) (22) Box 3 / #22
Correspondence April 1953 - May 1959
Box 1, 13

1953-1961
Box 27 Folder 21

Ha Joya de Salas, Tamps.
30 April 1953

Dear Dr. MacNeish:

Being aware of your interest in archaeology in the Sierra de Tamaulipas, I have been intending to contact you for some time. I understand from the rancher at Santa Barbara that on a recent trip you had a Dr. Miller in your party and I wonder if he or any others spent any time studying the fauna of that area. With two other students I have a MS on "Birds and biogeography of the Sierra de Tamps" based mainly on our field work near Acuna in 1949 and Sta. Maria in 1950. We studied mainly the pine-oak area, contrasting that fauna with similar arid pine-oak areas in adjacent parts of the Sierra Madre. We would appreciate learning of any faunal or vegetational studies you may have made.

But my main intent in writing this note is to mention certain "Indian mounds" found in the Sierra Madre above Gómez Farias. A Canadian, Frank Harrison, has resided there since 1934 and is well aquainted with them, and has recovered small images, pottery and I believe other artifacts. His address is c/o Events Storms, El Limon, Tamps. I'm sure he would be glad to supply further information about his finds. He lives in what was formerly Virgin Cloud forest, now reached by a lumber co. road running west and north from Gómez Farias. By jeep one can easily drive to his ranch except in the height of the rainy season.

Will appreciate hearing from you; my home address is Box 533, West Chester, Penna.

Sincerely yours

Paul L. Martin

4187R1-2

CANADA
DEPARTMENT
OF
RESOURCES AND DEVELOPMENT

NATIONAL PARKS
BRANCH

NATIONAL MUSEUM OF CANADA

Ottawa, Ontario
May 28, 1953

Dear Mr. Martin:

I hope this letter catches you still in Mexico as I have lost your Pennsylvannia address. Now in reply to your various questions. Unfortunately I did not have a botanist with me when I dug in the Canyon Diablo in 1949. However I did find one cave full of dried vegetable material including very primitive corn (dated as being 4445 years old by carbon 14 analysis) that is now being studied and identified by Dr. P.C. Mangelsdorf of Harvard. The flora looks tobe very similiar at that time to what it at present though slightly wetter. Also, ina report I am writing I have divided Tamaulipas into a number of ecological zones on the basis of J.Vivo data and my own observations. If you are interested I can send you a copy of my report on the various'ecological' zones.

Thank you very much about the information ruins in southern Tamaulipas. It should come in handy as I expect to be working in that region for the next two winters. If you hear of any caves or rock shelters with or without mummies I would be very interested to know of their locations. Perhaps I shall see you down in Mexico next winter.

Sincerely yours

Dr. RichardS. MacNeish

REMITENTE Paul Martin

DOMICILIO Rancho Calabasas

POBLACION Encino, Tamps.

Opened for identification

Dr. A. MacNeish
Dept. of Archaeology
Univ. of Toronto
Tronto, Ont.

Canada

PAR AVION

ESTADOS UNIDOS MEXICANOS CORRE AER

MEXICO
CORREOS

UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN, U. S. A.

MUSEUM OF ZOOLOGY

20 June 1954

Dear Dr. MacNeish:

Frank Harrison sent me your address last month, so in the hope that you haven't left Mexico I will inquire about your plans after leaving Mexico. Volney Jones informs me that you often stop at the Anthropology Museum ~~in~~ but that he has no knowledge of your plans.

I am writing my PhD thesis on certain aspects of vertebrate biogeography in the Gómez Farías region (quadrangle bounded by Ocampo, El Limon, Llera and Jaumave) and I would like to discover if you have collected subfossil vertebrate remains with your archeological material. I have a little comparative recent reptile-amphibian material and can suggest where you might obtain bird and small mammal identifications.

There are many matters concerning climatology, history and physical geography of the Gómez Farías region that I would like to discuss with you if you will visit the campus in the near future. If not, please let me know where I might reach you in future correspondence.

Sincerely yours,

Paul S. Martin

Paul S. Martin

Division of Herpetology

(over)

PS. Possibly you may meet Byron Harrell, if you haven't already. He hopes to find you in Victoria when he arrives (June 24-25??).

RANCHO DEL CIELO NEWSLETTER NUMBER 1

5 December 1955

Dear Friend or Contributor:

Over two years have passed since the launching of our program to preserve a tract of uncut oak-sweet gum Cloud Forest in southwestern Tamaulipas. We hoped to announce a successful purchase by this date. However, with many events to report, and a final purchase in view but unattained, we feel the need for this newsletter. To all of you who have contributed money, time, or supplied valuable information, we express heartfelt thanks. We need your continuing support.

Our appeal letter of November 1953, sent to over 50 scientists, visitors, and "aficionados" of the Rancho del Cielo forest, brought very encouraging results. Most of our donors were students, professors, or other relatively impecunious individuals. We felt we needed at least $200. By March of 1954 Irby Davis, acting as treasurer, reported over $500 in his account. In April $543 was wired to Prof. Enrique Beltrán in Mexico City, with the hope that he would succeed in completing the final transaction. However, progress during subsequent months was slow. Prof. Beltrán found the problem of purchase more difficult than he had anticipated and also felt the need for more funds. Finally, during the past summer opportunity arose for Byron Harrell to press our purchase, and we requested that Prof. Beltrán return our funds.

In late summer, Byron, acting as executive secretary and accompanied by his wife Joyce, devoted considerable time to the project. Arriving in Mexico City in August he received $4,794.80 pesos from Prof. Beltrán. In discussions with Dr. Roberto Liamas, Director del Instituto de Biologia, and Prof. Bernardo Villa R. he explored the possibility that the Institute, through the Universidad Nacional de Mexico, receive our tract as a gift and hold title in exchange for aid in preservation. Pending approval by the Rector of the University, we expect to present the tract to the Institute.

In September the Harrells reached Tamaulipas and visited Rancho del Cielo. They made certain that an important uncut area of oak-sweet gum Cloud Forest still exists in this heavily lumbered region, determined the ownership and approximate boundaries of the tract, and concluded that a purchase could be made locally. Our trusted friend of Rancho Pano Ayuctle, Mr. Everts Storms, agreed to negotiate an option on a clear title including timber rights to at least 100 to 200 hectares (247 to 498 acres) of land covered by considerable ammounts of uncut forest. We wait now for final word from Mr. Storms; the success of our project is in his hands. Without the cooperation of the present owners he will be unable to act.

One final matter deserves comment. In 1954 the International Committee for Bird Protection, Pan American Section, indicated interest in our plans. They have recently made the outstanding offer of $1000 for outright purchase of land which we expect to obtain on option. This very generous contribution is conditional on satisfactory arrangements for ownership and preservation, a matter about which Dr. Robert Cushman Murphy will inquire in Mexico City this month.

We are happy to announce an unexpected contribution of $200.00 received and forwarded to Mr. Storms in November. With the support of the International Committee for Bird Protection and with this recent gift we feel financially secure at least for the present. Future problems of maintenance and caretaking remain. Presumably we can meet these needs when they arise. If the Instituto de Biologia receives title, they should assume full responsibility for protection. If not, an annual levy of fifty cents on a membership of perhaps 100 would provide us with enough money to cover the expenses of a warden. Mr. Frank Harrison of Rancho del Cielo appears an ideal choice. What are your suggestions?

For the present, then, we look to Mr. Storms to gain our option, to the International Committee for Bird Protection to complete our purchase, and to the Instituto de Biologia to accept final ownership. We welcome your comments and ideas and hope that you can visit the Rancho soon. For those who have not already done so, the inclosed sketch map will help locate the area.

THE RANCHO DEL CIELO COMMITTEE

L. Irby Davis
Box 988
Harlingen, Texas

Byron E. Harrell
Minnesota Museum
of Natural History
Minneapolis 14

C. Richard Robins
3300 N. 3rd St.
Harrisburg, Pa.

George M. Sutton
Museum of Zoology
Univ. of Oklahoma
Norman

Ernest P. Edwards
Hanover College
Hanover, Indiana

Paul S. Martin
Osborn Zool. Lab.
New Haven, Conn.

Aaron J. Sharp
Department of Botany
Univ. of Tennessee
Knoxville

Charles F. Walker
Museum of Zoology
Ann Arbor, Mich.

Rancho del Ciclo and Vicinity
Southwestern Tamaulipas, Mexico

YALE UNIVERSITY
OSBORN ZOOLOGICAL LABORATORY
NEW HAVEN, CONNECTICUT

11 December 1955

Dr. Richard S. MacNeish
National Museum of Canada
~~Toronto~~, Ontario
Ottawa

Dear Dr. MacNeish:

I am extremely interested in your findings in southwestern Tamaulipas. Do you have any vertebrate fossil material? If so I would be willing to attempt identifications, with the help of Karl Koopmen at the American Museum. They have a fair collection of mammals from southwestern Tamaulipas which I assembled in 1953, including some cave material. A stratigraphic sequence of vertebrate fossils and plant remains, related to your sequence of artifacts, would deserve through study. Unfortunately I cannot help regarding your plant collection. The small collection I made from the Gómez Farías region in 1953 included only the dominant, or more conspicuous trees and shrubs, with few herbs or grasses. This set is at the Univ. of Michigan herbarium; Rogers McVaugh has identified most of it and I incorporated this info into my thesis on the Gómez Farías region.

Most of our work in southwestern Tamaulipas was concentrated on the eastern (humid) side of the Sierra Madre; however, in May of 1953 I traveled by mule from La Joya de Salas to spend two days at Rancho San Antonio, returning to La Joya by Canyon La Encantata past an intermittent spring which was not running at the time of my visit. Between this spring and San Antonio we passed through the river valley (then dry) which flows south to Ocampo. On a steep cliff face of this valley were a set of hand prints done in iron oxide or some similar red pigment, that my guide claimed were the work of "Los Indios" My guide is a small farmer at La Joya and a life long resident of this region. I have a kodachrome slide of the prints and can give you precise instructions on how to reach the spot if you are interested.

Please let me hear about any vertebrate fossils in your collection and whether I might have access to them.

Sincerely yours,

Paul S. Martin

Paul S. Martin

Ottawa, December 16, 1955.

Dr. Paul S. Martin,
Osborn Zoological Laboratory,
Yale University,
New Haven, Connecticut.

Dear Dr. Martin:

I was very happy to hear from you and most interested to know that you worked around Rancho San-Antonio. The nearest rancho to our caves was San Antonio and it was close enough so that one workman, named Jesus Diaz, brought torillas to our camp every other day from the rancho. One of my supervisors went up the main canyon that eventually flows to Ocampo on a survey trip and found some caves and has a number of records of red hands on the walls of cliffs. Some of these may be the ones you saw.

Now as to the bones themselves. We have some fossil bones from the lowest levels and a number of other bones from the higher strata. Right at present they are not separated in such a manner that I could send them to you conveniently but I will be able to do such after Christmas. Would you be interested in just the earlier bone material or the whole lot of it? I also have some fossil bone material from the high terrace in the Sierra de

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Tamaulipas. Some of these might be horse. Would you also be interested in seeing these?

Right now the snow is pretty thick up here in Ottawa and I keep thinking I ought to be back doing some more work in Tamaulipas but I don't think there is much chance I'll be able to get away.

Sincerely yours,

Richard S. MacNeish,
National Museum,
Ottawa, Canada.

a.

YALE UNIVERSITY
OSBORN ZOOLOGICAL LABORATORY
NEW HAVEN, CONNECTICUT

23 December 1955

Dear Dr. MacNeish,

I look forward with great expectations to your bone collection. Please send everything you have from north of Ocampo, regardless of age. Karl Koopman and I are presently finishing a MS on mammals from owl pellets collected in 1953 near Gómez Farías. Koopman would not go to all the trouble of identifying this "scrapy" material if ~~it~~ the locality were not of considerable interest ecologically and distributionally. Your collection, which should include a time dimension, should be of much greater interest. Please keep all information you have on depth and internal stratigraphy from getting lost in the shipment.

Perhaps you should hold off the Sierra de Tamaulipas material until we see what can be done with the Ocampo lot.

Truly we should leave this miserable latitude for southern Tamaulipas. I am very anxious to return to the field and the prospect of another white Christmas doesn't diminish this.

Sincerely yours,

Paul S. Martin

Paul S. Martin

Ottawa, February 1, 1956.

Dr. Paul S. Martin,
Osborn Zoological Laboratory,
Yale University,
New Haven, Connecticut.

Dear Dr. Martin:

Alas I have corralled all my benes from southwestern Tamaulipas, separated them as to culture layer, and so forth. I will be shipping them to you along with a copy of this letter.

Now a bit about the cultural sequence. The earliest materials we have, which are more than 4800 years old, are called the Infiernillo Culture. Remains of this culture were found in Occupation 1 of Cave Tm c 247 and Occupations 1, 2 and 3 of Tm c 248. These peoples were mainly hunters and food-gatherers although they did collect wild beans and, during the later part of this period, probably cultivated a few gourds and squash. The artifacts consist of a few laurel-leaf shaped spear points and a great mass of crude choppers and scrapers.

The second culture is called the Ocampo Culture and is from 4000 to 4800 years old. Remains of this culture were found in Occupations 4 and 5 of Cave Tm c 248 and Occupations 2, 3 and 4 of Cave Tm c 247. These peoples were again basically food-gatherers who did some hunting. However, they definitely did a small amount of cultivating of beans, squash, and gourds.

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The next culture is the Flacco Culture, 3000 to 4000 years old, and its remains occurred in Occupation 6 of tm c 248 and levels 6 through 12 of tm c 274. Again these people were basically hunters and food-gatherers but now there is a little evidence of corn-agriculture of a primitive type of corn along with the bean and squash-agriculture. Artifacts consist of a series of nets, mats, baskets, scrapers and distinctive spear points.

Following this we have the Guerra Culture, 2200 to 3000 years old. Here there is a big shift in subsistence with these peoples cultivating almost as much corn, beans, squash, and cotton as they amassed from wild food collecting and hunting. They used cotton and Agave-woven blankets and mats, made new sets of baskets, and had distinctive small spear points along with quite a number of wooden tools.

Meso de Guaje Culture, 1800 to 2200 years old, was next. These people were true agriculturists with a number of hybridized products of corn, squash, beans, and cotton. This culture was the first to use pottery, make figurines, and build villages with stone houses in the area. Baskets and mats are more finely made, and cotton is definitely woven on a loom. Spear points and scrapers as such are very rare.

From 900 to 1300 years ago we have the Palmillas Culture. This is the cultural apogee of the area. These people were farmers with a number of specialized varieties of corn, squash, beans, cotton,

tobacco, and peppers. In southwestern Tamaulipas they built almost all the larger ruins and stone pyramids. The bow and arrow appears along with the spear and dart. Blanket, mat, and basket-weaving reach a peak. There also are a number of other specialized crafts developed.

Next is San Lorenzo, 900 to 500 years old. Though these people are agriculturists much like the preceding period, the culture is on the down grade. They lived in smaller huts of mud and thatch in small villages. Though they smoked tobacco pipes -- and used almost exclusively the bow and arrow, pottery, weaving, and other crafts are definitely more poorly done than in the previous period.

San Antonio is our last culture and it is only 200 to 500 years old. This is undoubtedly the culture remains of the Pames and Jaumave tribes found by the Spanish in southwestern Tamaulipas. Evidence from our cave would indicate that they were still agriculturists living in small isolated villages. They still made pottery, mats, baskets and arrowheads, all of which are poorer than those of the three previous periods.

Now as to the boxes of materials. In the lower part of the box, separated by sheets of paper, are the scrap bone materials in bags from the eight various cultural stages. You might take a look at this and see if it is possible to identify it but I think the possibilities of identifying very much are quite slim. Above these materials are eight

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labelled packages or boxes of the bones from each of our cultures. They are not too numerous but all those in the boxes or packages with labels as to culture, I believe should be able to be identified.

Best of luck, and I would like to thank you in advance for undertaking this task. Sorry I couldn't have sent them sooner.

Sincerely yours,

Richard S. MacNeish,
National Museum,
Ottawa, Canada.

a.

Osborn Zoological Lab.
New Haven, Conn.

12 February 1956

Dr. Richard S. MacNeish
National Museum
Ottawa, Canada

Dear Dr. MacNeish:

Your shipment arrived safely. Frankly it is considerably larger than I had expected and unless I can enlist help, it may be impossible for me to accomplish much with it. Am counting on Dr. Karl Koopman of Queens College to take on the initial sorting of "possibly identifiable" and "not-worth-trying" categories. Karl has had previous experience with owl pellet material from Gómez Farías. His main work has been Pleistocene paleontology of the West Indies and I am confident he can do justice to the mammals. The American Museum has, of course, the necessary reference collection.

The cultural sequence you describe is extremely interesting. The level of agricultural accomplishment suggests fairly high native populations in this part of eastern Mexico, certainly a much higher native population than is supported by the area today. How much of the decline in productivity is the result of destructive agricultural practice in both pre and post Columbian time, and how much can be assigned to climatic change, remains an intriguing problem. Perhaps you have some more substantial evidence on this matter.

Many of the splinters of long bones and scraps of other material as ribs, tarsal and carpal elements may have to be neglected. However, there are some very interesting jaws and vertebrae which should be identifiable. Part of a turtle carapace may also be identified.

Spent two days at Montreal last week; there is a possibility that I will be at the U. of Montreal next year. If so will plan an Ottawa visit at the first opportunity.

Very sincerely yours,

Paul S. Martin

Paul S. Martin

YALE UNIVERSITY
OSBORN ZOOLOGICAL LABORATORY
NEW HAVEN, CONNECTICUT

8 April

Dear Dick,

Since your letter of last month I have made a preliminary run through Romero's Cave turtle bones at the MCZ with E. Williams. Terrapene and Kinosternon are the bulk of the lot, but an Emydid, possibly Graptemyda, requires more thorough inspection with a better reference collection. Can do this, and will also try to bring the Kinosternon down to species at U. of Michigan next month.

Koopman was up for a visit two weeks ago and we talked over organization of your material. He has some preliminary identifications (see inclosed letter). Can you supply him with the key to numbers and cultural layers which he needs?

We discussed the matter of the La Perra bones. At this point I feel more optimistic about our finding time to handle them. Current progress with Romero cave

remains makes me hope that the La Perra material can be included.

Will you have time to forward it to me in the next two weeks? Early in May My wife and I are leaving for field work in the southwest; however, if the Perra bones arrive by the end of April at the latest Kaufman and I could at least sort them out and divide up molluscan, reptilian, and mammalian fragments.

At Harvard Mengeldorf said he thought your dating for Romero Cave was based simply on archeological correlation with La Perra. Have you got any Radiocarbon dates on Romero Cave?

One more query; where is Hugh Cutler located? Is he aware that the U Mich. Herbarium has a ~~fair~~ small collection from the Ocampo-Jaumave region?

Now appears that I will be in Montreal on an NRC post doctoral. Hope to see you in Ottawa then. Best regards, Paul S. Martin

YALE UNIVERSITY
OSBORN ZOOLOGICAL LABORATORY
NEW HAVEN, CONNECTICUT

March 7, 1956

Dr. Richard S. MacNeish
National Museum of Canada
Ottawa

Dear Dick:

Saturday Karl Koopman and I spent making an inventory of your bone yard. The "unidentifiable" packages yielded some worthwhile jaws and other interesting items. The "identifiable" packages and bags were relatively richer, but still included many post-cranial bones which, however beautifully preserved, are seldom as informative as a scrap of jaw or cranium. Karl agrees to take on all the mammal work; I retained the better turtle material, including two very nice crania, and will contact Henry Van der Schalie at Ann Arbor regarding the molluscs. The mussels are most interesting and suggest permanent water in the Infernillo-San Antonio valley, something I found only in a few springs and pot holes entirely unsuitable for mussels - in 1953.

We attempted no authoritative identifications, but clearly artiodactyls, mainly if not all Odocoileus virginianus, were the most abundant items. Various rodents including rabbits, squirrels, rats (Neotoma) and apparently gopher appeared; a few smaller rodent mandibles, a variety of Didelphidae jaws possibly including Philander as well as Didelphis, and some unmistakable parts of Homo round out the mammal list. No sign of dogs or other large carnivores.

Turtles were numerous. Not only the larger parts mentioned above but many isolated pieces of turtle carapace. These I believe, are extremely resistant to identification. The larger elements resembled Terrapene (T. mexicana occurs in the lowlands today); however other fragments must be checked against Pseudemys, the slider turtle, which might be expected in the Arroyo if it was ever permanent. The turtles will certainly deserve critical attention.

We found two sections of snake vertebrae but detected no trace of Ctenosaura or other lizards. No evidence of fish. Bird remains suprisingly (to me) few, about three sterna, one icterid-like cranium, and two nicely mummified pieces, one the

head of a parrot (paroquet probably). Perhaps Karl can get someone to do a reasonable job on these three pieces. No recognizable remains of chachalaca or other Cracidae which I would have expected.

No fish bones although I recall something from Time magazine about your finding fishing gear in one of the caves. The insect remains we ignored for the present. Perhaps at a later date we can find someone at the AMNH willing to take them on. Also Karl is considering a resorting of all post-cranial fragments after he has finished with the cranial material.

As we can complete more reliable identifications we will send them on to you along with specimen number and date from the bags. One important question, has any vertebrate material other than Homo been removed? Not that we object in the slightest if you already have other people working on parts; however, we would like to know about it for obvious reasons.

The function of the caves puzzles me. Your letter mentions that the Guajes people and their followers occupied houses. Did others continue to live in the caves? If not how do you account for the continued deposition of midden material in the caves?

Am sending a copy of my recent article on Cloud Forest in the Gómez Farías region (within 20 km. of Infernillo). Your cultural sequence and Hill's account of Tamaulipas at the time of its "conquest" in the 18th Century make me considerably more suspicious of this area as "Primaeval Cloud Forest". It is possible that the high density of stems and their narrow diameter represent ~~select~~ forest regeneration of rather recent time. However, I do not see what purpose clearing might have served as the substrate is karst field and impossible to cultivate in most places.

Are any copies left of your "Synopsis of the archaeological sequence in the Sierra de Tamaulipas" and other Tamaulipan papers? I would greatly appreciate reprints.

Best regards,

Paul

Paul S. Martin

cc. Dr. Karl P. Koopman
Dept. of Biology
Queens College
Flushing, New York

Ottawa, March 12, 1956.

Dr. Paul S. Martin,
Osborn Zoological Laboratory,
Yale University,
New Haven, Connecticut.

Dear Paul:

I am enclosing three papers about Tamaulipas but unfortunately, my synopsis article is completely out of print.

As to the cave occupations, I suspect that no one lived in the caves permanently. Earlier peoples undoubtedly occupied them seasonally when they were not in small camps in the open. The later peoples, such as Juave, probably lived mainly in houses at the various ruins of the area. Their occupations of the caves were probably during planting seasons or on hunting expeditions. The continued presence of midden material in the caves is probably due to peoples of all periods occasionally camping there off and on over a 6,000-year period. In reality there was no continuous deposition but rather intermittent deposition.

Your study of the bone yard looks to be well organized and encouraging. You have all the bone material from the Ocampo caves except for a few pieces that have been made into artifacts. Other people are working on different parts of the collection but they are not studying the bone. Whitaker has studied the squashes. Hugh Cutler is studying the wild plant material, and Mangelsdorf is studying the corn. I hope to have a man from McGill analyse some of the feces for food content, but I haven't got around to doing this yet. Perhaps when all the bone data are worked up we can get together, or you can write an article about the changes in

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fauna in the cave area. Thanks a lot for taking on this job, and best of luck with it.

Sincerely yours,

Richard S. MacNeish,
National Museum,
Ottawa, Canada.

Enclosures

a.

511 West 113 St.
New York 25, N. Y.
March 21, 1956

Dear Paul,

I don't know whether or not you've seen Ripley, but if there is any tropical American bat material up at Peabody, I thought that this next week would be a good time to come up, since it will be Easter vacation at Queens. If you could let me know what days things will be open up there I can make plans to come to New Haven. In any case, there are a lot of things I still haven't been able to talk to you about, things which really involve spreading out all my lists and comparing notes, since I now have a whole new crop of ideas and queries about the Northeast Mexican problem.

I've now finished checking and writing up the species accounts and will have this typed up for your inspection when I see you next. Incidentally I want to thank you and Max for making me check those Cricetine identifications since it now develops that: 1. 'Peromyscus maniculatus' from Infernillo appears to be really Reithrodontomys megalotis; 2. 'Baiomys taylori' from Infernillo appears to be unidentifiable, thus removing two of the difficult cases to explain. The other new records have all stood up.

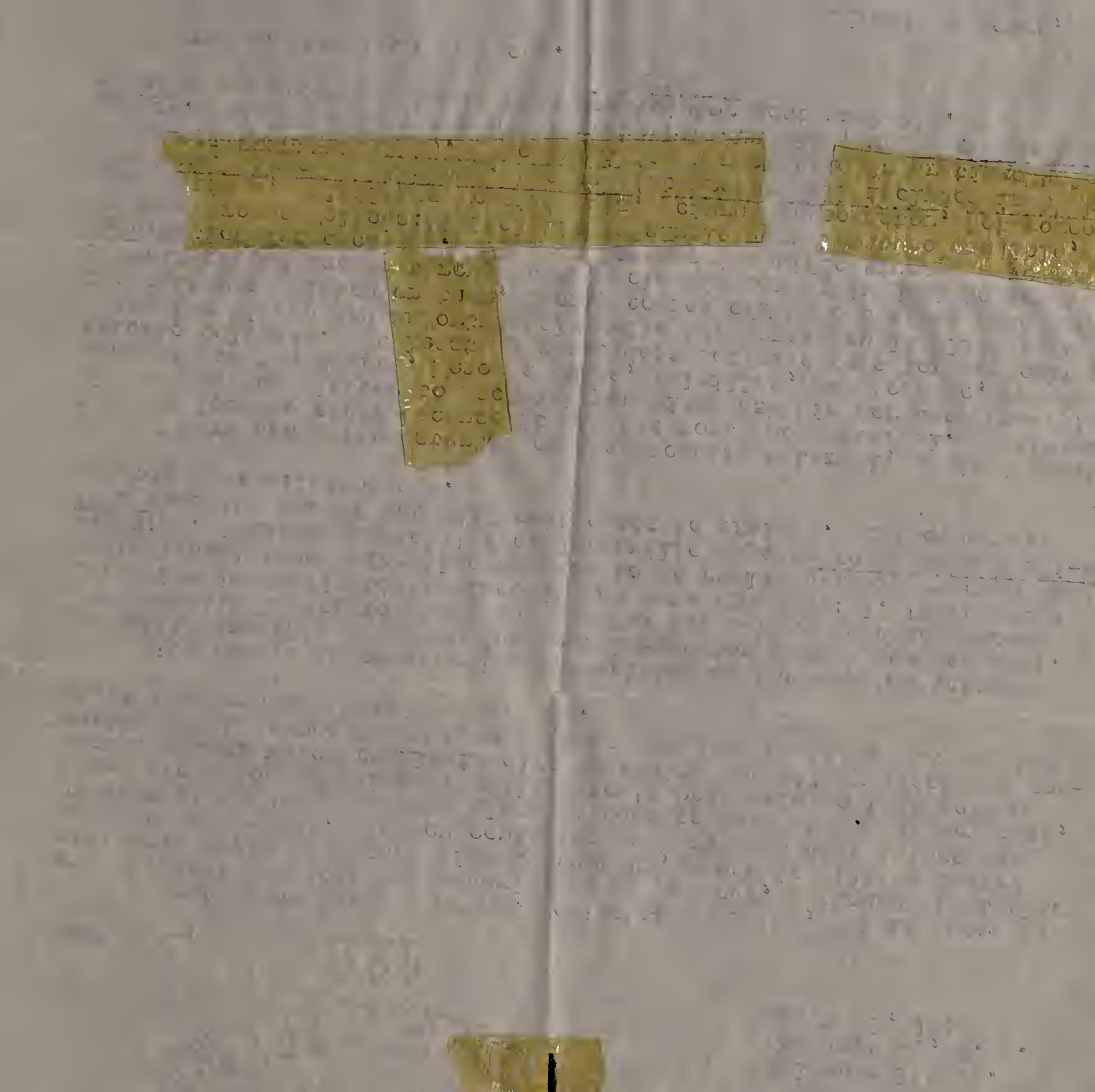
I have now gotten started on the MacNeish material, beginning with the San Lorenzo stuff because it has the most good material. Incidentall in you next letter to MacNeish you might ask him for the numbering systems for the Guerra, Meso de Guaje, Palmillas, San Lorenzo, and San Antonio cultures. At least my sheet does not give this for any culture above the Flacco and unfortunately while the boxes you labelled have the cultures written on them, I only copied off what the bag said and I would rather not go through that whole big box again just to get this information for each bag. The San Lorenzo identifications I have made to date are as follows: ?Didelphis (a single very immature mandible, Homo sapiens, Sylvilagus brasiliensis, Sciurus aureogaster, Heterogeomys hispidus, Sigmodon hispidus, Neotoma (at present all included in that catch-all angustapalata). The mummified parrot head is Aratinga holochlora. Max says that the snake vertebrae are ~~boid~~ crotalid, which on the basis of size and geography would make ~~Constrictor~~ Crotalus most probable.

Hope to hear from you soon.

Sincerely yours,

Karl

P.S.- Would you have any objection to me presenting our Talmadge work at the next Mammal Society meetings?



Ottawa, April 18, 1956.

Dr. Paul S. Martin,
Osborn Zoological Laboratory,
Yale University,
New Haven, Connecticut.

Dear Paul:

I am enclosing here a list of the levels and occupations of the various sequential cultures from the Sierra de Tamaulipas that you can send to Karl Koopman. I think this is the information he is wanting. If he wants the cultural affiliations of a particular specimen, then I would advise taking the number, such as 247, making a list of those he wants and sending it to me and I'll tell him the culture. However, what I think he wants is this list I'm sending you.

This weekend I'll get the La Perra bones together and ship them off to you.

I would have no objection whatsoever to having you present any of the Tamaulipas material at any meeting.

Incidentally, I have a dating for the Ocampo culture in Infiernillo. It probably represents about the end of Ocampo and is 3,945. At present the University of Michigan has a whole series of specimens from the caves from every culture but the last two. They are analysing them for Carbon 14 dates and these should be forthcoming within the next three or four months.

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Dr. Martin, Ottawa, April 18, 1956.

Mangelsdorf just finished a paper in the Botanical Museum Leaflets of Harvard University, Vol. 17, No. 5 on the La Perra corn. You might be interested in reading it.

Hugh Cutler is at the Missouri Botanical Gardens at St. Louis. I am writing him to tell him that there is a small collection from that area at the University of Michigan Herbarium. I believe he will be very glad to hear of this.

Glad to hear you will be in Montreal at McGill next year and will be looking forward to seeing you and talking about dear old Tamaulipas.

Sincerely yours,

Richard S. MacNeish,
National Museum,
Ottawa, Canada.

Enclosure

a.

San Antonio Culture
Tm c 247, Occupation 16
Tm c 247, Occupation 15

San Lorenzo Culture
Tm c 248, Occupation 8
Tm c 248, Occupation 7
Tm c 247, Occupation 14
Tm c 247, Occupation 13

Palmillas Culture
Tm c 274, Occupation 3
Tm c 247, Occupation 12
Tm c 247, Occupation 11

Mesa de Guaje Culture
Tm c 247, Occupation 10
Tm c 247, Occupation 9

Guerra Culture
Tm c 247, Occupation 8
Tm c 247, Occupation 7
Tm c 247, Occupation 6
Tm c 247, Occupation 5

Flacco Culture
Tm c 248, Occupation 6

Ocampo Culture
Tm c 247, Occupation 4
Tm c 248, Occupation 5
Tm c 248, Occupation 4
Tm c 247, Occupation 3
Tm c 247, Occupation 2

Infiernillo Culture
Tm c 248, Occupation 3
Tm c 247, Occupation 1
Tm c 248, Occupation 2
Tm c 248, Occupation 1

Ottawa, April 24, 1956.

Dr. Paul S. Martin,
Osborn Zoological Laboratory,
Yale University,
New Haven, Connecticut.

Dear Paul:

Accompanying this letter will be a box of bones from the Sierra de Tamaulipas, mainly from the Canyon Diablo and Canyon Calabaza, which is just east of Acuna. In this area we have a longer sequence than in the Sierra Madre but there are gaps in it and we do not have the nicely preserved vegetable remains or perishable artifacts in all cultural phases.

Accompanying this letter I am sending a chart which lines up the levels and indicates the cultural sequence. The bones that are identified in Cave Tm c 81, 82 and 174 were done by Hibbard of the University of Michigan from caves we dug in 1949. These materials I am sending you are from two additional caves, Tm c 314 and Tm c 315.

The earliest culture we have in the Sierra de Tamaulipas (except for a few older artifacts that I call the Diablo Complex) belong to the Lerma Phase. Geological evidence would seem to indicate that this culture was in existence during the Anathermal, 9,000 to 11,000 years ago. It seems to be older and unlike any we have from the Sierra Madre. As you will note in the list, what

....2.

has been identified so far consist of a beaver tooth, some Mazama deer bone, and one extremely large tooth of Odocoileus deer. In the box we have one small flat box labelled as identifiable bone from Lerma-Nogales. It also seems to have some teeth of some very large deer or something. There also is a box of unidentifiable bones from this phase. All these are from Layer 5 of Tm c 314.

Layer 4 of Tm c 314 had bones belonging to a Nogales component. Nogales is a little like Infiernillo in the Sierra Madre and geological evidence in the Sierra de Tamaulipas would indicate that it may have been in a warm dry period (Altithermo) 5,000 to 7,000 years ago. In the not too distant future we should have Carbon 14 dates for both Nogales and Lerma.

There is a bag of identifiable Nogales bones and a box of ones I don't think are identifiable.

La Perra remains were found in the bottom of the Cave Tm c 315, Levels 7-9. There are now three Carbon 14 dates for this culture, being 3,945, 4,450 and 4,650. We should have a few more very soon. The culture is very much like that of Ocampo in the Sierra Madre, one difference being, however, that these people grew some very primitive corn, and flora remains would indicate that the Sierra Madre was semi-tropical.

Developing from La Perra is Almagre and you have two boxes of identifiable bone, one from Layer 3 of Tm c 314 and one from Levels 1-2 of Tm c 315. There are also two boxes of unidentifiable bone from these levels.

Following Almagre there is a gap like there was between Lerma and Nogales. Then ruins begin to be built by the Laguna peoples who reached their maximum in the Eslabones Phase. I have no new material from either of these phases.

....3.

However, from Tm c 314, Layer 2, there are two boxes of bones from the La Salta Phase which seems to be a degeneration of the ruin-building Eslabones people. The culture is similar to and roughly contemporaneous with Palmillas in the Sierra Madre and it dates from somewhere between 600 and 1000 A.D. We have a Carbon 14 date of about 950 years ago for this culture.

Following it is a gap in our sequence and then comes the Los Angeles Phase, which is very much like San Antonio in the Sierra Madre. These people seem to have lasted up to historic times. Like the three previous cultures, they were agriculturists but they seem to have done a little more hunting and didn't go in for any fancy architecture or other arts. There is one box of identifiable bone of the Los Angeles Phase from Layer 1 of Tm c 314 and four boxes of bone which I don't think can be identified.

I hope this is not too late and doesn't foul you up just as you are trying to get ready to leave. However, there is really very little bone from these caves and, in light of your other identifications, it ought to be relatively easy.

I envy you and your wife on your trip to the Southwest. In June I head for northern Saskatchewan and then the Yukon Arctic coast. I am sorry to say neither the scenery nor the climate ever even comes close to equal that of the Southwest.

Sincerely yours,

Richard S. MacNeish,
National Museum,
Ottawa, Canada.

Enclosure

a.

UNIVERSITE DE MONTREAL

Institut de Biologie
CASE POSTALE 6128
MONTRÉAL,

11 November

Dr. Richard S. MacNeish
Department of Northern Affairs
National Museum of Canada
Ottawa

Dear Scotty:

Not only do I find that you were in Montreal but that you gave a paper on agricultural origins! No matter, I have now met your fine field man, Gordon Lowther, and we are planning to improve the McGill-Montreal liason. An inter University Pleistocene seminar is in the wind.

I had hoped to make an Ottawa trip with my wife this month; however, it may not come off. Perhaps you are wondering about your bones (fossil). I haven't heard from Koopman since returning from Arizona. We will probably get together in NYC at Xmas and I will find out how much work is left on the identifications. Dr. Lowther reports that you have a biogeochemist doing scat analysis. Am waiting to hear more about it.

Best regards,

Paul S Martin.

Ottawa, November 14, 1956.

Dr. Paul S. Martin,
University of Montreal,
P. O. Box 6128,
Montreal, Quebec.

Dear Paul:

I am glad you got, quite by accident, in touch with Gordon Lowther because we looked all over for you at McGill and I would have liked to have seen you when I was down there. I may be down to Montreal next month and will let you know when I am coming so we can arrange some sort of a get-together. Incidentally, Ottawa is really not too far away and we would very much welcome a visit from you and celebrate the trials and tribulations in Tamaulipas or some other such worthy cause.

Sincerely yours,

Richard S. MacNeish,
National Museum,
Ottawa, Canada.

a.

Ottawa, December 10, 1956.

Dr. Paul S. Martin,
University of Montreal,
P. O. Box 6128,
Montreal, Quebec.

Dear Paul:

I hope to be in Montreal, Friday, December 14th, and probably will be staying over the weekend until the evening of the 16th. Would it be possible for me to see you at that time?

Incidentally, since I last wrote to you I have received about eleven or twelve Carbon 14 dates on the Canyon Infiernillo materials. They range from 8600 years ago right up to 520 and much of the agricultural materials are much older than we would ever have suspected. This, of course, is also true of the bone material. When I see you I'll explain the matter further.

I would appreciate hearing from you by return mail to know if you are available this weekend.

Sincerely yours,

Richard S. MacNeish,
National Museum,
Ottawa, Canada.

a.

UNIVERSITE DE MONTRÉAL

CASE POSTALE 6128
MONTRÉAL

11 December 1956

Dr. Richard S. MacNeish
National Museum
Ottawa, Canada

Dear Scotty:

Gordon and I were just conspiring yesterday about how we might corner you for a program on our McGill-Montreal Pleistocene seminar next spring. But more of this when you arrive. Getting together may be a bit of a problem as I usually spend the week ~~xxxxxxx~~ end at home. If you arrive by train I will come in Sat PM and count on finding you at McGill. If you drive, please leave a message with our landlord (OL 7-8445) and we'll expect you accordingly. There is lots of room so plan to spend the night if you can.

Are you going to the AAAS? If so you can meet Koopman and we can discuss the bone problem. Meanwhile Marian and I count on seeing you ~~xxxxxxxxxx~~ one way or another this weekend.

Best regards,

Paul

Paul S. Martin

Institut de Biologié

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xxxxx

Branch

Canadian Museum
of Human History

Ottawa, January 8, 1957.

Dr. Paul S. Martin,
University of Montreal,
P. O. Box 6128,
Montreal, Quebec.

Dear Paul:

I am sorry that we missed connections at the New York meeting but things were so spread out and semi-chaotic that in my two attempts to find you, I was not very successful. Also I didn't stay in New York very much. What I was mainly wondering about is how is the analysis of the zoological material coming? Can you tell me any more about this?

Will be leaving for Harvard in a few days but if you write me here, my secretary will forward the letter.

Sincerely yours,

Richard S. MacNeish

a.

UNIVERSITÉ DE MONTRÉAL

CASE POSTALE 6128
MONTRÉAL

10 January 1957

Dr. Richard S. MacNeish
Department of Northern Affairs
Ottawa, Ontario

Dear Scotty:

Dressler and Koopman were sorry to miss you in N.Y. I saw Griffen Friday and learned you had returned. Now, however, you can see Dressler at Harvard.

Koopman has sorted out the best of the Infernillo bones and begun identification of them. He will have one day a week this spring to finish the rest. This is strictly a qualitative identification of mammalian remains. In addition we discussed the problem of what to do with the rest, especially long bones of artiodactyls, which comprise the bulk of the material. Koopman is mainly a taxonomist and an evolutionist and not especially interested in paleoecological problems. However, we discussed what Hibbard had done with your Sierra de Tamaulipas material and the way in which you are hoping to use this data - i.e. to show shifts in species hunted and in the relative ammount of hunting, gathering and planting involved in the economy. I think someinformation of this sort might be derived from tentative identification and inventory of all long bones at each level. Especially if this data could be used in some sort of curve, i.e. number of artiodactyls vs. total bone deposit, Some interesting theoretical problems and possibilities arise. Since your stratigraphy and dating is so good, the material deserves maximum inspection for quantitative as well as qualitative changes.

A problem arises, however, in handling the fragments. Presumably after he has finished with the cranial elements, Koopman will have a good picture of the fauna. He will definitely <u>not</u> have time to sort all the bags into occupational levels, and then into parts of the skeleton represented. This impressed us as the job for an assistant, prior to his inspection and identification. Dr Koopman has several students with training in paleo who might do the dirty work, at a price. I think about 100 hours would be enough time to organize all this and that $1.50 per hour is a fair price for such an assistant. Can you raise the cash? Next summer is a likely time for the job to be done.

Kelley
20 Wore Dr.
Apl. 3
Usp.. 4-5375

$800

Now the Sierra de Tamaulipas material. Koopman as you see has his time pretty well taken up for next spring. Thus there is little likelihood that anything can be done with it in the near future. However, we did discover what looks unmistakably like the astragulus of a horse from the La Perra layer! Karl is checking with Skinner, the local horse expert.

Will you explore our symposium idea with Mangelsdorf at Cambridge? I have thought of another possible Pleistocene geologist - Arellano at Mexico City. Am inclosing your list of likely candidates.

At New York Flint reported on a radiocarbon date for the pluvial period in Searles Lake, California. A definite fit for the glacial maximum. The area is, unfortunately, part of the winter rain belt and this date thus by no means settles the problem of tropical pluvials in regions of summer rains. Did you look up Wallen's paper?

I am hoping to visit Ottawa later this month. When will you be back from Cambridge? ~~xxxxxxxxxx~~

Vale,

Paul

Paul S. Martin

Institut de Biologie

P. S. Here is the Air photo address:

Col. William C. Tinsley
Chief, Photographic Records & Services Div.
Office of Research and Liason
Aeronautical Chart and information center
Washington 25, D.C.

They required 4½ months for clearance of my last order. Would you be kind enough to pass the address on to Drexler if you see him?

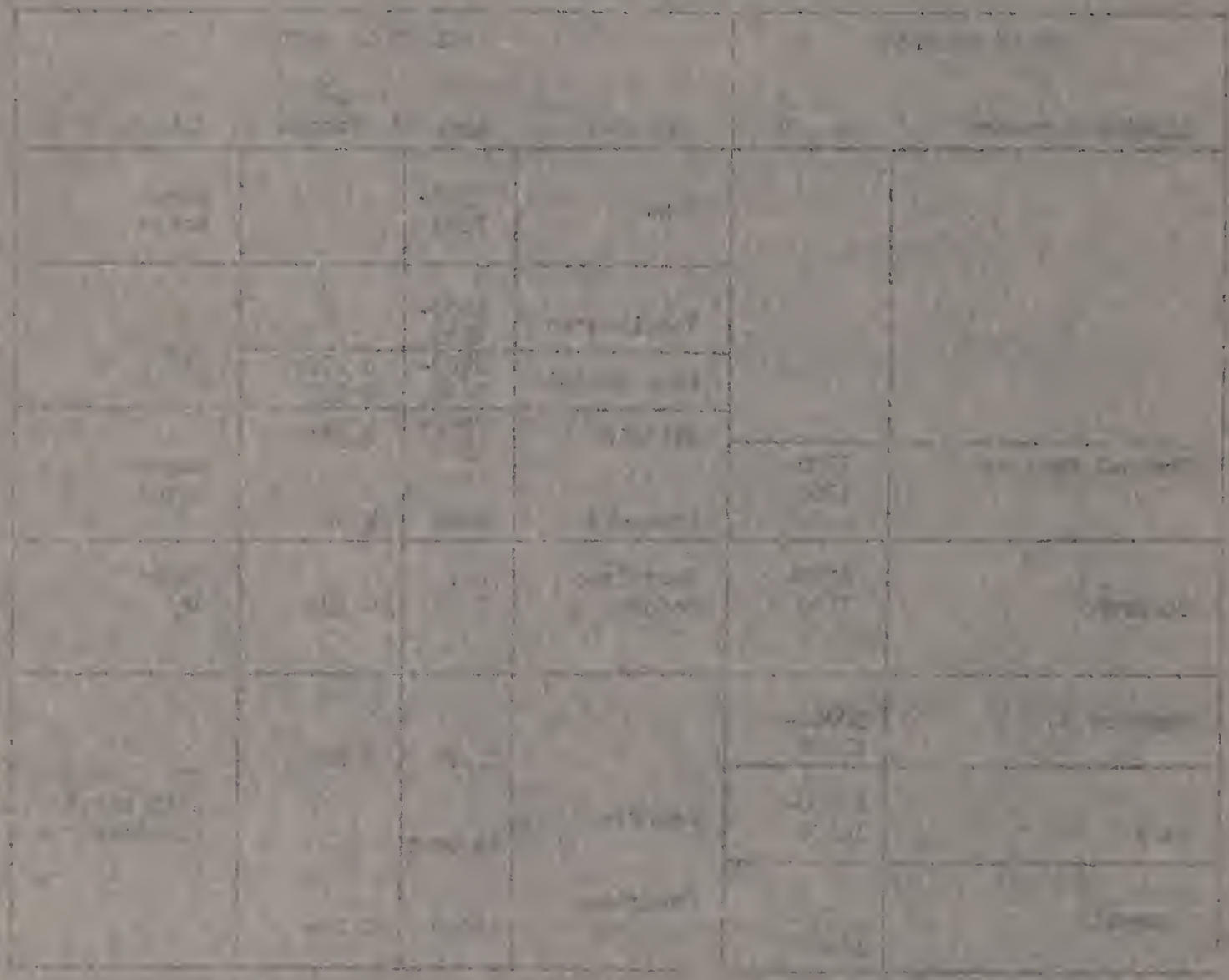
Table II

CORRELATION OF WISCONSIN SUBSTAGES AND CLIMATE
IN THE VALLEY OF MEXICO

NORTH AMERICA		VALLEY OF MEXICO			
Glacial Sequence	Age, BP	Horizon	Age, BP	C^{14} Sample	Climate
		Nahua	500-1100		warm-moist
		Teotihuacan	1100-2400		dry
		Late Archaic	2400-2600	C 200, C 202	
		Archaic	2600-4500	C 196	warm-moist
Thermal Maximum	3500-5500	(unnamed)	5000	W 50	
Cochrane	6500-7500	Barrilaco Pedocal	ca. 7000	>C 198	cool-dry
~~Mankato~~ Valders	10000-11000	Becerra	11000	C 205	dry with moist fluctuations
Cary	13500-14500		to over		
Tazewell	17000-18000	Superior	16000	C 204	

Sources: Arellano 1953, Libby 1955, Sears 1952, Sears and Clisby 1955, Suess 1954, 1956.

For Cordell
The term Mankato is no longer suitable for the ice
of this age, see Wright 1957.



from a MS on Pleistocene history of temperate biotas in Mexico and eastern United States. Ecology No. 2 or 3; 1957.
Paul S. Martin and Byron E. Harrell

Climatic Consideration. The hypothesis that eastern deciducus forest species withdrew to Mexico during the Pleistocene implies that this took place during a cool glacial period and that high latitude cooling was correlated with wet (pluvial) conditions in Mexico. Furthermore it assumes that such climatic change obliterated the present hot and dry barrier in south Texas and northeastern Mexico. A general correlate of this hypothesis is that the interglacials were dry and warm and that south Texas was as arid as it is today.

Unfortunately for such an interpretation, it is not yet possible to correlate low latitude pluvial periods with glacial maxima, although this has been attempted repeatedly (Deevey 1953). In fact, the opposite may be true. Radiocarbon dates of the Archaic Culture, associated with a high lake level in the Valley of Mexico, correspond not to a cool interval at high latitudes but to a thermal maximum, 5500-3500 B.P.* Sears (1951) places the late Archaic-Teotihuacan transition in xerothemic Time, 2500 B.P. Actually the thermal maximum preceeds this date in many high latitude localities. We propose the late Archaic-Teotihuacan dry period corresponds in age with climatic deterioration of the "Little Ice Age" and the early Archaic (wet) period in the valley of Mexico to the thermal maximum of eastern North America.

In any case the two major pluvial periods recorded in the Valley in the last 5000 years are two young to be associated with a major advance of Wisconsin ice (Table II). In addition, Arellano (1953) suggests that the Barrilaco Pedocal, a buried caliche horizon, was formed about 7000 years ago under cool-dry conditions. This age estimate would correspond to that of the Cochrane readvance, 6500-7500 B.P. (Suess 1956). A correlation of these ~~counts~~ events indicate that high latitude cool periods

* B.P. Before Present.

are times of drought not moistine in the Valley of Mexico.

In an analysis of recent rainfall trends, Wallen (1955) draws some conclusions which would seem to support this correlation. He noted a decrease in summer precipitation, and therefore effectively in annual precipitation, in Mexico at a time of southward regression of the subtropical high pressure areas, the latter event correlating with the cooling in the north in recent years. The increase in precipitation must be associated with a northward shift of the subtropical high. Of course, extrapolating these observations to interpret glacial and interglacial climatic patterns is tentative, but at present it is easier to postulate a circulation system that would produce wet conditions in Mexico during the time of ice withdrawal than during the time of ice advance.

It is difficult to visualize a forest corridor through south Texas unless cool and moist conditions were correlated. If the rainfall were greater without a lowered temperature, tropical forests would extend northward and constitute a barrier to the disjunct temperate forests. If conditions were cooler but not more moist, Mexican temperate forests would descend on the mountain slopes, but the arid barrier would hardly be moderated enough to permit forest interchange to the north. Therefore, we suggest that in the Pleistocene such a ~~corridue~~ corridor did not develop.

Discussion.

In challenging the hypothesis of Pleistocene arrival for certain mesophytes in the montane Mexican flora we emphasize that our objections do not extend to the biota of other habitats. To cite a very few examples, the relict distribution of Ambystoma in the Mexican Plateau, Triturus (=Diemictylus), Terrapene, and Ophisaurus in the Gulf Coastal Plain and its foothills, Cynomys in southern Coahuila, fossil Marmota and Synaptomys in

Nuevo Léon, and Picea pollen in the Valley of Mexico appear related to important P Pleistocene climatic change. However, the almost total absence in the montane forests of temperate faunal relicts from eastern United States is striking. It stands in marked contrast to the appreciable percentage of eastern North American trees and shrubs which reach low latitudes in these forests.

The possibility remains that some or perhaps all of the strict mesophytes spread across the arid Texas hiatus by accidental means not related to the profound climatic change necessary for the development of a forest corridor. At various times during a glacial maximum a cool oak-juniper, oak-pine, or possibly even pine-spruce savanna with tall grasses may have extended through south Texas into northern Mexico. The river valleys and arroyos running eastward to the Gulf of Mexico, presently either treeless, or bordered by gallery forest of Sabal, Ulmus, Arundo, Celtis, and Fraxinus as along the Rio Grande (Clover 1937: 82), were swollen by increased runoff. Under such circumstances some mesophytes including Fagus, Acer, Liquidambar, and Carpinus might have occupied the enlarged flood plains. The formation of "resacas" or ox-bows would facilitate habitat hopping from one drainage to the next. Certain mesophytes could thus extend their ranges into (or out of) Mexico along a route obviously more suitable to plants than to animals.

Such a system we consider of questionable effectiveness for three reasons. First, many of the plants involved such as Liquidambar, Magnolia, Hamamelis, Mitchella, Fagus, and Nyssa have diaspores not well suited to wind or animal transport, even across short barriers. Second, unstable flood plain habitats would not appear suitable for certain upland species including Carya (ovata group), Pinus strbbus, and Taxus globosa. Third, and most critical, any individual accidentally spreading either north or south along this route would have to penetrate a well established native flora in either Mexico or eastern United States.

As the most satisfactory working hypothesis we propose that the majority of the Arcto-Tertiary mesophytes reached the montane Mexican forests by the mid-Cenozoic at the latest. A faunal parallel to this floristic interpretation is evident in the distribution of the Plethodontidae.

During the Pleistocene there was probably additional biotic exchange with eastern United States along a savanna or prairie-border woodland through northeastern Mexico and Texas. This ecological birdge permitted such xero-mesophytes as Cercis, Juniperus, Prunus serotina, Juglans, and Carya pecan to re-establish contact. At this time certain animals including Glaucomys, Pitymys, Sorex cinereus, Strix varia, Ophisaurus, Coluber, Storeria occipitomaculata, Sistrurus, and Diadophis entered (or left!) the Mexican Plateau. Subsequently some of these, i.e. Storeria, spread into montane forest of the Plateau, escarpments while others such as Coluber remained exclusively savanna relicts.

The biogeographic theory interpreting present distributions entirely in terms of Pleistocene conditions raises many problems that do not exist if earlier as well as Pleistocene events are considered.

In effect our biogeographic and climatic interpretation makes a choice between Deevey's alternatives (1949: 1395):"... whether the desert barrier that now opposes the southward migration of north-temperate organisms was obliterated during the Pleistocene, or merely somewhat debilitated". If humid montane faunas are a suitable index, the arid barrier was not obliterated.

Summary. 1. The montane flora of Mexico has a marked affinity to the flora of the eastern United States. This affinity has been explained in two ways. It has been suggested that the mountains of eastern Mexico were a refugium for retreating eastern temperate forests during the height of a glacial period.

The opposing theory states that the temperate element had reached Mexico by the mid-Cenozoic and became disjunct from its northern counterparts by the Pliocene development of an arid zone in southern Texas and northeastern Mexico. In the Pleistocene the arid zone ameliorated only enough to allow passage of those temperate animals and plants that could exist under savanna conditions.

2. The eastern North american element in the humid montane fauna of Mexico is much smaller than that evident in the flora. At one station in northeastern Mexico this element comprised 29 per cent pf the arboreal flora and two percent of the vertebrate fauna.

3. Of a total of 775 terrestrial vertebrate species inhabiting temperate forests of Mexico and northern Central American only five are disjunct representatives of species confined elsewhere to eastern United States.

4. Present evidence this suggests that very few temperate forest animals were able to cross the arid Texan barrier in the Pleistocene. These probably did so along a cool savanna or open woodland corridor.

5. Salamanders of the Family Plethodontidae provide faunal confirmation of a pre-Pleistocene (mid-Cenozoic) arrival of warm temperate animals in Middle America. Presumably this was no later than the arrival of the Arcto-Tertiary flora and the establishment of separate populations of sweet gum, hard maple, beach, evergreen magnolia, etc. in eastern United States and in Middle America.

6. Climatic conditions postulated for notheastern Mexico include persistence of an arid barrier separating eastern North American from humid montane Mexican biotas through the Pleistocene. Although pluvial periods occured in this region, they may not have been in phase with glacial maxima.

7. Interpreting the eastern temperate (Arcto-Tertiary) element in the Mexican montane biota exclusively in terms of Pleistocene dispersal raises more distributional problems than it solves. An earlier (pre-Pliocene) arrival of

temperate plants and lungless salamanders appears more in accord with present evidence.

Acknowledgments. R.M. Dressler of the Gray Herbarium generously presented us with the distribution maps employed in Figs. 4, 6, 7, 8, and 12. For their comments we are especially indebted to J.R. Borchert, E.S. Deevey, Jr., R.M. Dressler, E. Hernandez X., D.B. Lawrence, A.J. Shapp, C.F. Walker, D.W. Warner, and H.E. Wright, Jr. This paper was completed while Martin held a Rackham Postdoctoral Fellowship

Division of
Archaeology

Canadian Museum
of Human History

Ottawa, February 6, 1957.

Dr. Paul Martin,
P. O. Box 6128,
University of Montreal,
Montreal, Quebec.

Dear Paul:

Thank you very much for your paper, and though I don't quite agree with your chart, it is a very stimulating idea.

I am enclosing with my letter the big chart which I showed you when I visited you, with some minor changes.

Now as to the bones. I believe I will have enough money left of my Guggenheim Fellowship to pay about $150 for one of Koopman's students to work over the non-cranial materials.

Thanks for the information about the aerial photographs. I have started the ball rolling on this.

So far at Harvard, I haven't had too much chance to talk over our symposium idea with Mangelsdorf, since hs has been away most of the time, but I have talked with Dressler and he thinks it is a good idea. Maybe we can get something rolling on this before I leave Harvard.

Sincerely yours,

Enclosure

Richard S. MacNeish

a.

UNIVERSITE DE MONTREAL

CASE POSTALE 6128
MONTRÉAL

2 March 1957

Dr. Richard S. MacNeish
Division of Archaeology
Canadian Museum of Human History
Ottawa, Canada

Dear Scotty:

I have found a palynologist of top quality who is willing (for a price) to take on your Tamaulipan samples.* Mrs. Margaret B. Davis is ~~x~~ completing her PhD with Raup at Harvard, works in Barghoorn's lab, has spent a year in Denmark with Iversen and has a pair of beautiful profiles of Late and Postglacial sequence from Mass. Her diagram is richer in detail than any I've seen from North America; Deevey, Cain, Sears and Potzger ~~have~~ never achieved work of this caliber.

Mrs. Davis gave the last program ~~at~~ the Lowther-Martin seminar on matters Pleistocene.

Incidentally when can we catch you for the program on agricultural origins? At present March is filled, although we could fit you in on the 20th or 27th. However, April is wide open.

Thanks very much for your revised chronology for Tamaulipas. As a factitious dramatization I suggest that we submit two articles to Science, yours presenting and mine rearranging the MacNeish climatic-geologic-cultural sequence. I am disappointed not to have persuaded you to the Martin-Harrell hypothesis; however, it may be more interesting this way. Incidentally, have you compared the C^{14} dates on the Cochise Culture (Libby, 2nd edition) with ~~xxx~~ Antevs old climatic chronology? (Medallon Paper #29). He was quite definite on calling the Sulphur Spring stage a Pluvial period, 10,000 B.P. C 216 and C 511 on charcoal from this stage come out at 7756 and 6210 respectively.

Good luck with the symposium, I hope you can generate Mangelsdorf's interest, and resources!

As ever,

Paul

Paul S. Martin

Department de Biologie

* Providing no oil company reaches her first. They are always snapping up pollen analysists.

PS. I worte to Koopman giving him the greenlight on the postcranial problem. We will see if he finds someone for the layout.

xxxxxxxxxx
xxxxx

Division of
Archaeology

xxxxxxxxxxxxxxxxxx

Canadian Museum
of Human History

Ottawa, March 7, 1957.

Dr. Paul Martin,
University of Montreal,
P. O. Box 6128,
Montreal, Quebec.

Dear Paul:

I will be most glad to talk on the agricultural origins for your seminar any time after April 5th, so put me down at whatever time is most convenient for you boys. I am writing to Gordon Lowther to this effect.

Thank you very much for writing to Koopman concerning the faunal material. My Guggenheim money is getting shorter and shorter and I think I'll just about be able to pay a student to do some of the checking of the other bone material. This, of course, brings up the matter of pollen and Mrs. Davis, and I am afraid that I really just don't have any money to pay her to do any sort of work on pollen. Also, Bob Dressler has been talking about getting somebody from Harvard to look over the pollen, but this is not definite.

When I get my chapter done on the Tamaulipas climatic periods, I'll send you a copy of it for your comments. It also will be even more interesting when the Sierra Madre plant materials are done. I will give you one little hint, and this is that stuff that is dated as 6,200 B.C. has some manioc stems and leaves in it that means the Canyon Infiernillo must have been quite a bit wetter than at present, while with stuff dated 3,200 B.C. there seems to be evidence of a drier climate than present conditions. However, we have a long way to go before the Sierra Madre can be

....2.

brought to bear upon problems of geological periods. Incidentally, both these dates, particularly the earlier one on Sulphur Springs Pluvial Period could be of the pre-post-glacial optimum phase. The later one seems a little too recent but it is not too much that way.

Sincerely yours,

Richard S. MacNeish

a.

xxxxxxxxxxxx
xxxxxx

Human History Branch

Ottawa, April 5, 1957.

Dr. Paul S. Martin,
University of Montreal,
P. O. Box 6128,
Montreal, Quebec.

Dear Paul:

Well, I am finally back to stay a while. I have a number of problems I want to talk over with you one of these days. As you may or may not know, I attended a meeting on archaeological identifications earlier this month. The meeting was most profitable and educational for me and one thing that did come out of it was that all identifications should be worked on a regional basis, and that it might be a good idea to have a series of handbooks on the ecology of various parts of the world. At that time I mentioned your idea of having a conference on northeastern Mexico, and the idea was looked upon with some favour. Since that time I spoke to Dr. Kluckholme of Harvard University about the financing of such a conference and he thought that he could get money up to $10,000 for a conference and handbook from the Carnegie Institute and, if not from there, from the National Science Foundation. He also suggested that I submit to him a rough outline and list of people I thought might like to attend such a conference and who would contribute to it. Provisionally, I have made such a list and I think our next step will be to contact these people and any others who might be interested, and then start arranging some sort of programme. For the moment, I'll tell you what people come to my mind as being interested and able to come, and I would like very much your thinking of any names that come to your mind.

....2.

1. Ecologist (willing to go):

   Paul Martin.

2. Botanists (willing to go):

   Bob Dressler.

   Economic botanists:

   Paul Mangelsdorf

   Walton C. Galinat (both willing to go)

   Hugh Cutler (I spoke to him only verbally and he was more or less in favour of the idea but never formally stated that he was willing to go but he did suggest that his Botanical Gardens in St. Louis might be a good place to hold the conference.)

   Larry Kaplan, the bean man, is willing and ready to go.

3. Geologists for the area are a little harder to get hold of but Maldando of Mexico, and perhaps De Terra of the Viking Fund, are possibilities.

4. Zoologists I am not too sure about. I hope you may be able to help me out on this matter.

5. A geographer certainly should be in on such a conference and Jorge Vivo of Mexico is a possibility but he is an awfully busy man and not specifically interested in northeastern Mexico.

   A geographer from Texas also has been suggested but I don't know his name or who he is.

....3.

6. Ethnologists might very well be Moreno from Mexico and Gabriel Saldavar, both of whom have studied distribution of tribes in Tamaulipas.

7. Archaeologists might be Aveleyra from Mexico; Alex Krieger, Dave Kelley (who would be willing to go), and myself.

This gives us about seventeen names and we could add perhaps as many as three or four more.

Now as to expenses. All transportation would be paid for by the conference, which would come out $300 apiece, which would be about $6000, and then, of course, there would be another $1000 for arrangements, secretary, and so forth. This might leave about $3000 for some sort of eventual publication.

In terms of the general philanthropic institutions, the conference might very well be called a Symposium on the Paleo-ecology of Northeastern Mexico. It might be a good idea if it was held in St. Louis and lasted about four days. One day being devoted to natural ecological areas; another day devoted to human ecological areas; a third day to changes through time and natural and human ecological areas; and the fourth day to relationships between human and natural ecological areas.

I will be very interested in your thoughts on the matter and any proposals or ideas you may have. Quite frankly, this is your idea in the beginning, and I am perfectly willing to be the treasurer or money grabber for this conference if you would like to head it and organize it. I think, also, that we should have some sort of an editor for the conference and I would be open to suggestions though one of the archaeologists, Dave Kelley, would not be a bad choice.

Let me hear what you think about the matter and when I come to give the speech at McGill on April 17th, I'd like to have some time to be able to talk over the whole thing with you and perhaps whip up an outline that we could submit to Kluckholme so we could get money in sufficient time for a meeting to be held either next fall or the following winter. Be seeing you.

Sincerely yours,

Richard S. MacNeish

a.

CASE POSTALE 6128
MONTRÉAL

April 11, 1957.

Dr. Richard S. MacNeish,
Human History Branch,
National Museum of Canada,
OTTAWA, Ont.

Dear Scotty:

Teriffic. Can you really raise all that money? The program looks quite satisfactory, with an even balance between environmentalists (geologists, biologists, geographers) and human affairs people.

Byron Harrell and Karl Koopman are the zoologists I would most like to see added. A third possibility is Starker Leopold of Berkeley.

How about Arellano as one of the geologists? Last I heard Maldanado was in Brasil. Has he returned?

It seems you have laid very thorough ground work. Details can be arranged when you arrive. I usually stay out at the house Tuesday and thus will probably miss your Firth River program. However, if you can come out during the days, or stop over Monday night, we could have a session. Or any time at School on Wednesday or Thursday.

Until then,

Paul

PSM/am

Paul S. Martin, Ph.D.,
Department of Biology,
University of Montreal.

P.S.: We now have a phone, Ol 7-4155.

Card from Koopman announces that Mrs. Sylvia Fagan will be in New York in June for the lay out of your artiodactyl bones. Koopman will be there then also. Can you support her work as planned?

Ecology
Climatology
Geology
Paleontology
Zoology
Botany
~~Anthropology~~ — Ethnology
Archaeology

* Martin
* Muller Santa Fe
Darnell — Marquette

31 possibles

C. C. Walker —
Apicos Contreras - Mex

-21 probables

Emeral, U of Tex ?

~~*~~ Maldonado — ?
* Arellano — 1
De Terra — 2
Evans — ~~5~~
~~Livingston~~ Poole { Kaufman Hebbard
Bryan Hassel Illinois
B. Vulla - Mex
Lowery — ? L.S.U. } ?
Newcomb — ? L.S.U. }

~~Hendricks~~
~~Olsen~~
Dresden
~~Sharp~~ — ?
Miranda — ?

} 10

Dan Nenk

Mongulsdal.
Kalenat
Kaplan
Carter — to work
Moreno. — " "
Goldsen " "
Anderson " "
~~Kriegen~~ " " Arsdal.

De Terra.
~~Edens~~
Oellano
Evans — Arsdal

Green — ok
Dressler — ok

Books to work
Hornaday
Mueller
Koerper
Wallen
Kniel
Vuillen

Moreno 13

The interaction between environment and culture in Northeastern Mexico in the past 10,000 years (Late post-glacial)

I. TITLE

A Symposium on Paleo-ecology on Northeastern Mexico.

II. PURPOSE

To study the interaction between environment and culture in northeastern Mexico in the past 10,000 years or post-Pleistocene period.

III. PROGRAMME

A. First day - Morning session:

The natural ecology zones of northeastern Mexico.

Afternoon session:

Ethnological and archaeological areas of northeastern Mexico.

B. Second day - Changes in natural and cultural areas since the Pleistocene.

C. Third day - Relationships between human and natural areas.

D. Fourth day - Relationships between human and natural areas.

IV. PARTICIPANTS

A. Ecology - Dr. Paul Martin, University of Montreal.

Dr. Muller, Santa Barbara, California.

B. Climatology - Dr. C. C. Mellen.

C. Geology - Dr. Arellano, Mexico City.

Dr. H. de Terra, New York City.

D. Zoology - Dr. Koopman, Queen's University.

Dr. Bryan Harrel, University of Minnesota.

Dr. B. Villa, Mexico.

E. Botany - Dr. H. A. Crum, National Museum of Canada.

Dr. S. Herandez, Mexico.

Dr. Robert Dressler, Harvard University.

F. Economic Botany - Dr. L. Kaplan, University of Chicago.
Dr. Hugh Cutler, St. Louis Botanical Gardens.
Dr. Paul C. Mangelsdorf, Harvard University.
Dr. W. C. Galinat, Harvard University.

G. Ethnology - Dr. J. Moreno, Mexico.
Dr. G. Saldivar, Mexico.

H. Archaeology - Dr. L. Aveleyra, National Museum of Mexico.
Dr. R. S. MacNeish, National Museum of Canada.
Dr. Alex Krieger, University of Texas.

V. PLACE

St. Louis, Missouri.

VI. TIME

Four days during fall, 1957, or winter, 1958.

VII. DIRECTORS OF THIS SYMPOSIUM

A. Programme - Dr. Paul Martin.

B. Treasurer - Dr. R. S. MacNeish.

C. Arrangements - Dr. Hugh Cutler.

VIII. RESULTS

Publication (in English and Spanish) of Handbook on Paleo-ecology of Northeast Mexico.

IX. EXPENSES

A. Travel . . . . . $250 per person
Living . . . . . 40 " "
Incidentals . . . . . 10 " "
$300 " "

B. For twenty persons $6000

Arrangements:	Hall rental	$50	
	Light, etc.	50	
	Help	50	
	Two secretaries	150	$300
C. Publication			3000
	Total		$9300

Paul Martin

CASE POSTALE 6128
MONTRÉAL

25 April

Dear Scotty,

After you can check my programme expansion and have it included in a final copy, I will start contacting the 12 "natural science" people. The outline as it stands looks mighty good to me.

Vale,

Paul

SYMPOSIUM ON PALEOECOLOGY OF NORTHEASTERN MEXICO.

I. PURPOSE.

To define environmental and cultural features of northeastern Mexico and to assess their interaction during the Late Pleistocene.

II. PROGRAMME.

A. The Modern Aspect . . . . . first day.

1. Fauna and flora of northeastern Mexico.
2. Climate and vegetation.
3. Ethnological Areas.

B. The Late Pleistocene Record . . . . . second day.

1. Paleontology of Tamaulipan caves.
2. Stratigraphy and Pleistocene geology
3. Archeological horizons.

C. Environmental Change . . . . . third day.

1. Biogeography of Northeastern Mexico.
2. Biological evidence of Climatic change.
3. The postglacial Pluvial problem.

D. Man and His Environment . . . . . fourth day.

1. The evolution of agriculture.
2. Man's ecological impact.
3. Has climate controlled culture ?

PSM Revision.

I. TITLE

A Symposium on Paleo-ecology ~~on~~ of Northeastern Mexico.

II. PURPOSE

To ~~study~~ consider the interaction between environment and culture in northeastern Mexico in the past 10,000 years or ~~post-Pleistocene period.~~ postglacial period.

III. PROGRAMME

A. First day - Morning session:

Biota and ecological areas
~~The natural ecology zones~~ of northeastern Mexico.

Afternoon session:

Ethnological and archaeological areas of northeastern Mexico.

B. Second day - Changes in natural and cultural areas since the Pleistocene.

C. Third day - Relationships between human and natural areas.

D. Fourth day - Relationships between human and natural areas.

III ~~IV.~~ PARTICIPANTS

A. Ecology - Dr. Paul Martin, University of Montreal.

C.H.
Dr. Muller, Santa Barbara, California.

B. Climatology - Dr. C. C. Wallen.

A.R.V.
C. Geology - Dr. Arellano, Mexico City.

Dr. H. de Terra, New York City.

D. Zoology - ~~Dr. Koopman, Queen's University.~~ Karl College New York

Byron
Dr. ~~Bryan~~ Harrell, University of Minnesota.

Bernardo
Dr. ~~B.~~ Villa, ~~Mexico~~. Mexico City

E
~~F.~~ Botany - Dr. H. A. Crum, National Museum of Canada.

Dr. E. Herandez, Mexico.

Dr. Robert Dressler, Harvard University.

E F Paleontology. Karl P. Hussman Queens College
Clyde Hibbard University of Michigan

G F. Economic Botany - Dr. L. Kaplan, University of Chicago.
Dr. Hugh Cutler, St. Louis Botanical Gardens.
Dr. Paul C. Mangelsdorf, Harvard University.
Dr. W. C. Galinat, Harvard University.

H G. Ethnology - Dr. J. Moreno, Mexico.
Dr. G. Saldivar, Mexico.

I H. Archaeology - Dr. L. Aveleyra, National Museum of Mexico.
Dr. R. S. MacNeish, National Museum of Canada.
Dr. Alex Krieger, University of Texas.

IV ~~V.~~ PLACE

Walter

St. Louis, Missouri.

V ~~VI.~~ TIME

Four days during fall, 1957, or winter, 1958.

VI ~~VII.~~ DIRECTORS OF THIS SYMPOSIUM

A. Programme - Dr. Paul Martin.

B. Treasurer - Dr. R. S. MacNeish.

C. Arrangements - Dr. Hugh Cutler.

VII ~~VIII.~~ RESULTS

Publication (in English and Spanish) of Handbook on Paleo-ecology of Northeast Mexico.

VIII ~~IX.~~ EXPENSES

A. Travel	$250	per person
Living	40	" "
Incidentals	10	" "
	$300	" "
B. For twenty persons		$6000

Arrangements:	Hall rental	$50	
	Light, etc.	50	
	Help	50	
	Two secretaries	150	$300
C. Publication			3000
	Total		$9300

SYMPOSIUM ON PALAEOECOLOGY OF NORTHEASTERN MEXICO

I. PURPOSE.

To define environmental and cultural features of northeastern Mexico and to assess their interaction during the Late Pleistocene.

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A. The Modern Aspect . . . . . first day.

1. Fauna and flora of northeastern Mexico.

2. Climate and vegetation.

3. Ethnological Areas.

B. The Late Pleistocene Record . . . . . second day.

1. Paleontology of Tamaulipas caves.

2. Stratigraphy and Pleistocene geology.

3. Archaeological horizons.

C. Environmental change . . . . . third day.

1. Biogeography of Northeastern Mexico.

2. Biological evidence of climatic change.

3. The postglacial Pluvial problem.

D. Man and his Environment . . . . . fourth day

1. The evolution of agriculture.

2. Man's ecological impact.

3. Has climate controlled culture?

III. PARTICIPANTS.

A. Ecology - Dr. Paul Martin, University of Montreal.

Dr. C. N. Muller, Santa Barbara, California.

B. Climatology - Dr. C. C. Wallen.

C. Geology - Dr. A. R. V. Arellano, Mexico City.

Dr. H. de Terra, New York City.

D. Zoology - Dr. Byron Harrell, University of Minnesota.
Dr. Bernardo Villa, Mexico City.

E. Paleontology - Dr. Karl F. Koopman, Queen's College, New York.
Dr. Claude Hibbard, University of Michigan.

F. Botany - Dr. H. A. Crum, National Museum of Canada.
Dr. E. Herandez, Mexico.
Dr. Robert Dressler, Harvard University.

G. Economic Botany - Dr. L. Kaplan, University of Chicago.
Dr. Hugh Cutler, St. Louis Botanical Gardens.
Dr. Paul C. Mangelsdorf, Harvard University.
Dr. W. C. Galinat, Harvard University.

H. Ethnology - Dr. J. Moreno, Mexico.
Dr. G. Saldivar, Mexico.

I. Archaeology - Dr. L. Aveleyra, National Museum of Mexico.
Dr. R. S. MacNeish, National Museum of Canada.
Dr. Alex Krieger, University of Texas.

IV. PLACE.

St. Louis, Missouri.

V. TIME.

Four days during fall, 1957, or winter, 1958.

VI. DIRECTORS OF THIS SYMPOSIUM.

A. Programme - Dr. Paul Martin.

B. Treasurer - Dr. R. S. MacNeish.

C. Arrangements - Dr. Hugh Cutler.

VII. RESULTS.

Publication (in English and Spanish) of Handbook on Paleoecology of Northeast Mexico.

VIII. EXPENSES.

A. Travel		$250 per person	
Living		40 " "	
Incidentals		10 " "	
		$300 " "	
B. For twenty persons			$6000
Arrangements: Hall rental	50		
Light, etc.	50		
Help	50		
Two secretaries	150		$300
C. Publication			3000
Total			$9300

Paul Martin
U.N.

31 May

Dear Scotty,

When is our Program - final copy? N'oublier pas!

Paul

xxxxxxxxxx
xxxxxx

Human History Branch

Ottawa, June 3, 1957.

Dr. Paul S. Martin,
University of Montreal,
P. O. Box 6128,
Montreal, Quebec.

Dear Paul:

I am sorry I forgot about the revised copy of our programme. It has now been submitted to Kluckhohn and I wish I would hear that the money tree has started to shed some of its leaves.

Enclosed are five copies of an article entitled "Cucurbit Materials from Three Caves Near Ocampo, Tamaulipas". Pass them around to any of the Tamaulipas boys you think might be interested.

Have a pleasant summer.

Sincerely yours,

Richard S. MacNeish

Enclosures

a.

28 September 1957

Dr. Richard S. MacNeish
National Museum of Canada
Ottawa

Dear Scotty,

I hope that you and Gordon enjoyed a rich field trip ~~with~~ conclusive ~~proof~~ evidence of early man by the mid-Illinoian at the latest.

In New York last weekend Karl and I finished up the "quantitative analysis" of your midden. Koopman is interested mainly in the rodents and at best in cranial material which can be identified to species. Nevertheless he was patient with me and helped catalogue the post-cranial fragments which Mrs. Fagan had separated. Even with these out of the way there was a mountain of fragments all carefully bagged and inventoried ~~xx~~ by you according to stratagraphic sequence. Despite caustic comments from Koopman and his paleontological colleagues, I insisted that weighing the stuff would be of some interest at least. Frankly having done the job I am no more sure now than then that it was worth it. Did you collect all bone scraps from your pits, or was some of the material sifted out and discarded? In the latter case the weights will tell us nothing. Otherwise they may indicate something about relative preservation of midden material. Do you expect that later occupants swept out the litter of their predicessors? Would you accept relative litter accumulation at face value as an index of "carniverousness"?

Mrs. Fagan did an excellent job, especially in view of the limited amount of time she spent (forty hours). I hope you will be able to pay her promptly. As I recall the rate agreed upon was $1.25 an hour.

We still have not received final word from NSF regarding the Cochise Cultural pollen profile and paleoecology of the Late Pleistocene in Arizona. Earliest possible starting date it seems is January one. I'm not sure what we will do before then and I have started to hunt for someone with a pollen stratigraphy problem and money. For two ~~xxxxxxxxxxxxxxxx~~ to four months salary (no less than $300 per month) I will take on anything - Alaska muck soils or Tamaulipan cave earth included!

Deevey has C-14 dates on my Penna. Full-glacial, 13,500 BP for the upper ~~xxx~~ gritty clays. A MS is about set for the AJS. Reprints on the Martin-Harrell on the Mexican Pleistocene are still in Canadian customs; will send one when tney arrive.

Everyone asks, hopefully, about the St. Louis symposium. Are you having any luck? Dressler is bitter about its location; he votes for Cd. Victoria!

Hello to Tom Lea, best regards to you from both of us,

Paul & Marian

P.S. Paul Sears would like reprints of your papers & is also interested in the possibility of pollen work on your Tayamnik material. As you know he no longer has access to routine

Pollen work a must entail identifications to
a ~~plant assistant~~ series of temporary assistants. However,
he is in a position to do work free of charge.

XXXXXXXXXXX
XXXXX

Human History Branch

Ottawa, October 17, 1957.

Dr. Paul S. Martin,
The Martin Laboratories,
Box 532,
West Chester, Penna.

Dear Paul:

I read your recent article in Ecology and enjoyed it very much. I still don't agree with you on the relationship of wet periods in the north and south but I must admit that it is a stimulating idea.

Thank you and Karl Koopman very, very much for your work on the bones. I am sorry that we sent along so many scraps but the truth of the matter is that we did save every single bone and your weighing and rough counting of these scraps is worth while because I believe that when each horizon is compared with the next above it we may get some idea about the relative "carniverousness". Undoubtedly there was some sweeping out of bone beds and disturbing of earlier bone beds by pits by later horizons but I think this is a relatively minor occurrence as most of the zones were capped by sterile layers so that the new occupants didn't see the bones or refuse of the earlier ones and consequently, comparisons from one horizon to the next would still give a relative amount and the sweeping or pitting would be more or less constant which would not greatly affect the relationships.

As yet I have not heard from Mrs. Fagan or Carl nor received any bill for work, or the results of their studies. Do you suggest I write them, or will it be sent along one of these days?

I am sorry to hear that the Arizona job did not come through on schedule. As to pollen materials, I have lots of interesting material, both from the Firth River and Tamaulipas, but the present

....2.

situation, as usual at the National Museum, is that we have no money to get it worked up. I shall write Paul Sears and send him some reprints with regard to the pollen material of Tamaulipas.

The St. Louis symposium is, unfortunately, not going along as well as it might. Kluckholm approached both the National Academy of Sciences, National Research Council, as well as the Carnegie Institute, and both of them felt that such a conference was a little off their beat. He further suggested that he would be a sponsor for our project from the National Research Council and would be willing to approach the American Council of Learned Societies for money. Therefore I am sending him, to send to that outfit, the outline of our project plus a brief statement that will make our project fit a little closer to the sort of awards given by the American Council of Learned Societies. I am not as hopeful as I was of getting money but I haven't totally given up yet either.

Incidentally, if Dressler really feels very strongly about the location of the project, I would not object to changing its location. By the way, is he still in Tamaulipas or has he returned to Harvard?

Give my regards to Marian and the kids. Still hope to see you at the St. Lawrence conference.

Sincerely yours,

Richard S. MacNeish

a.

xxxxxxxxxxxx
xxxxxx

Human History Branch

Ottawa, January 13, 1958.

Dr. Paul S. Martin,
Department of Anthropology,
Cnicago Natural History Museum,
Chicago, Illinois.

Dear Paul:

Thank you for your publication entitled "Late Mogollon Communities. Four Sites of the Tularosa Phase, Western New Mexico" which I very much enjoyed.

Sincerely yours,

Richard S. MacNeish

a.

UNIVERSITY OF ARIZONA
TUCSON

GEOCHRONOLOGY LABORATORIES

19 January 1959

Dr. R. S. MacNeish
Museum of Human History
National Museum of Canada
Ottawa, Canada

Dear Scotty,

At last I am forwarding a copy of Koopman's identifications of your Infernillo vertebrate material. Dr. Max Hecht is mailing you the box of bones. Bob Drake still has some shells and I have some turtle bones. Otherwise it's all going back to you.

I have some data on weights of bones from various levels, which Karl and I assembled in 1957. What you need, I'm afraid, is a MS discussing all this. But at present we are overloaded with Southwestern pollen samples and I must finish something on our Rampart Cave sloth dung study very quickly. The fact that I still haven't sent a paper to Lowther, promised in September, is an indication of my unreliability, if you need any.

What are your plans on publication of your Tamaulipas work? Perhaps you are pretty thoroughly involved in Arctic problems at this point. Did Cameron finish his study of parasites in your dung samples?

Manglesdorf's recent article in Science reminded me of the fact that protoagricultural Zea was eaten, cob, tassel, and all. Surely pollen should come through nicely and would appear in your dung specimens, providing they date from the summer growing season.

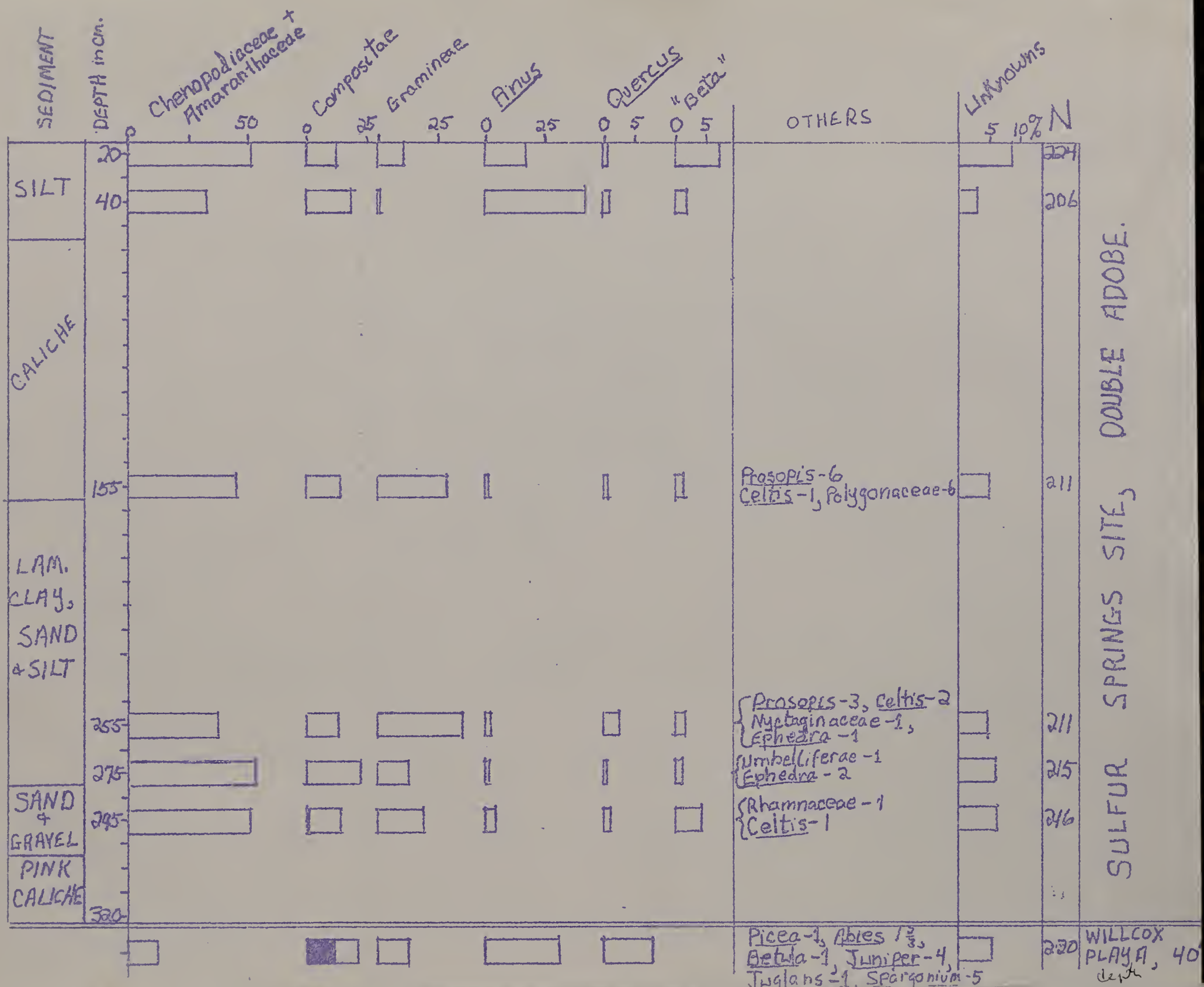
Did you ever succeed in finding someone to study your Mexican material for pollen? If not, I would be interested in analyzing a small amount of it -- whatever samples you consider of maximum archaeological or climatic interest. Our Rampart Cave analysis was highly encouraging; however, there are theoretical reasons for expecting optimal results from a strict herbivore such as the ground sloth.

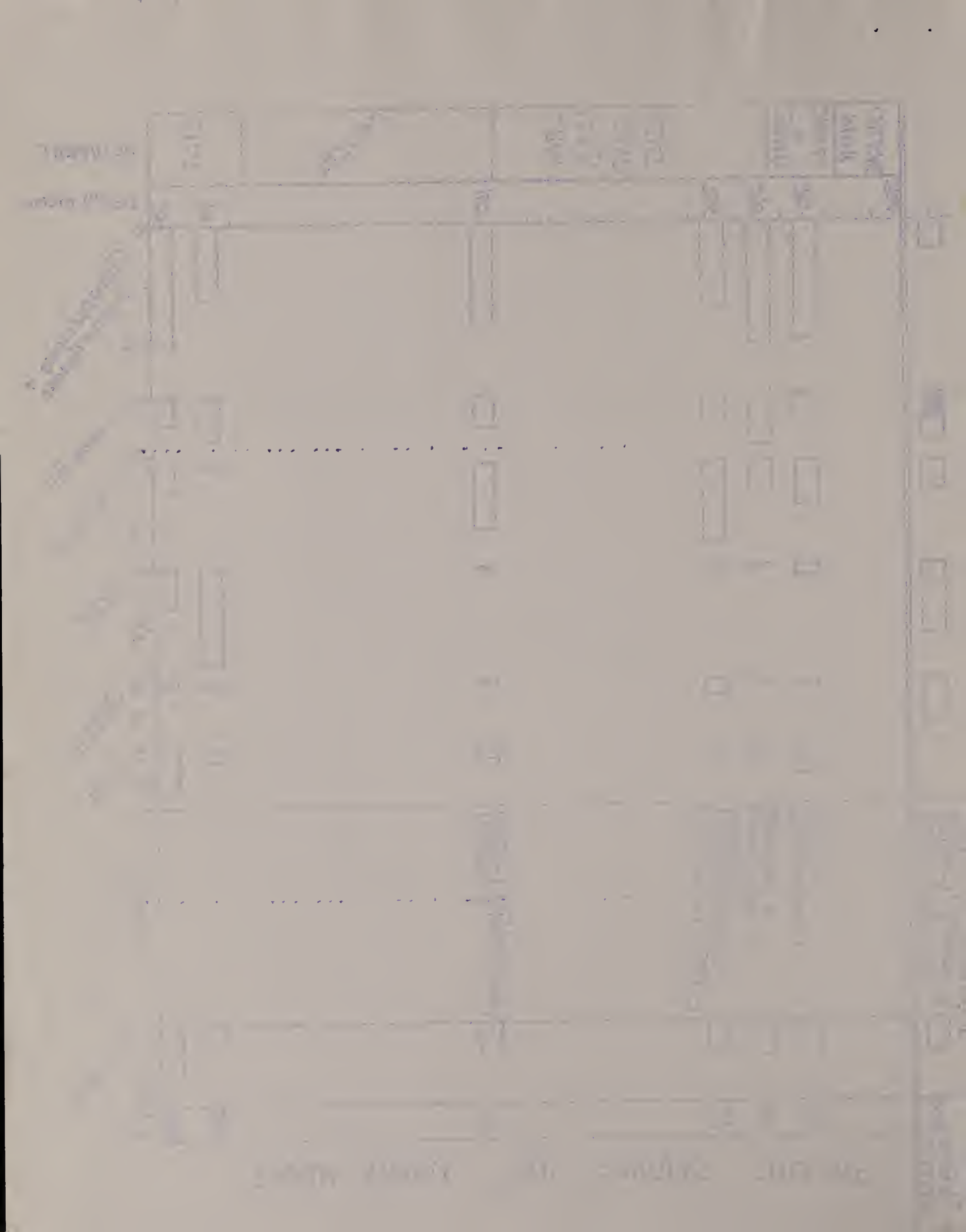
Are you still inclined to ascribe drought to the Thermal Maximum in northeastern Mexico? I confess our pollen horizons from what is probably this period in the Southwest, have produced no conclusive evidence of increased moisture as I had expected. However, they show no obvious effect of drought either. The main pollen change in the entire postglacial sequence in our arroyo samples is a radical shift from composite dominance to chenopod-amaranth dominance about the time of the Great Drought, 1200 A.D.

As ever,

PSM:hg

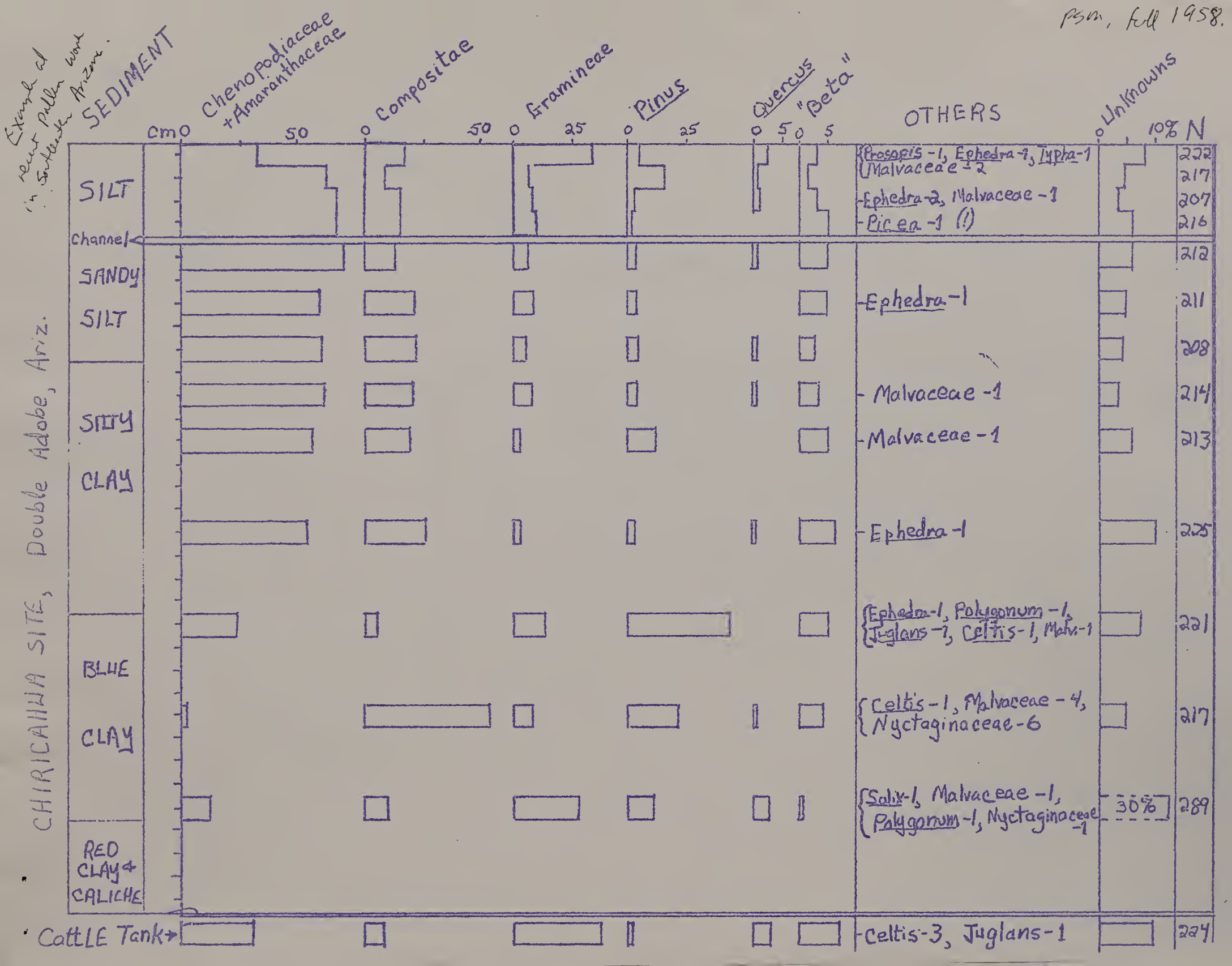
P. S. Martin


SEDIMENT
DEPTH in cm.
Chenopodiaceae + Amaranthaceae
0 50
Compositae
0 25
Gramineae
25
Alnus
0 25
Quercus
0 5
"Beta"
0 5
OTHERS
Unknowns
5 10%
N
SILT
CALICHE
LAM. CLAY, SAND & SILT
SAND & GRAVEL
PINK CALICHE
20
40
155
255
275
295
320
224
206
211
211
215
246
220
Prosopis-6
Celtis-1, Polygonaceae-6
Prosopis-3, Celtis-2
Nyctaginaceae-1,
Ephedra-1
Umbelliferae-1
Ephedra-2
Rhamnaceae-1
Celtis-1
Picea-1, Abies 1 2/3,
Betula-1, Juniper-4,
Juglans-1, Sparganium-5
SULFUR SPRINGS SITE, DOUBLE ADOBE.
WILLCOX PLAYA, 40
depth



PSM, Fall 1958.

Example of recent pollen work in Southeastern Arizona.



CABLE ADDRESS - MUSEUM, CHICAGO

TELEPHONE: WABASH 2-9410

CHICAGO NATURAL HISTORY MUSEUM

FORMERLY FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE SHORE DRIVE

CHICAGO 5, ILLINOIS

29 January 1959

Dr. Richard S. MacNeish
National Museum of Canada
Ottawa, Canada

Dear Scotty:

Am I on your personal list for a copy of your archaeological report on Tamaulipas?

In a few days you will receive from me a copy of a short popular book on our excavations in New Mexico. I hope you will like it and let me know what you think of it.

As ever your friend,

Paul

Paul S. Martin
Chief Curator
Anthropology Department

PSM/t

ADDRESS ALL CORRESPONDENCE, PUBLICATIONS, AND PACKAGES TO
CHICAGO NATURAL HISTORY MUSEUM, CHICAGO 5, ILLINOIS, U.S.A.

Ottawa, February 3, 1959.

Dr. Paul S. Martin,
Chief Curator,
Department of Anthropology,
Chicago Natural History Museum,
Chicago 5, Illinois.

Dear Dr. Martin:

Your letter of January 29th received. Dr. MacNeish is presently in Mexico. He is expected back in Ottawa early in March. I will see that your letter is brought to his attention at that time.

Yours sincerely,

(Mrs. Vera M. Atkinson)

Secretary.

C
O
P
Y

CHICAGO NATURAL HISTORY MUSEUM

29 January 1959

Dr. Richard S. MacNeish
National Museum of Canada
Ottawa, Canada

Dear Scotty:

Am I on your personal list for a copy of your archaeological report on Tamaulipas?

In a few days you will receive from me a copy of a short popular book on our excavations in New Mexico. I hope you will like it and let me know what you think of it.

As ever your friend,

(Signed) Paul

Paul S. Martin
Chief Curator
Anthropology Department

PSM/t.
a.

Ottawa, February 3, 1959.

Dr. Paul S. Martin,
Chief Curator,
Department of Anthropology,
Chicago Natural History Museum,
Chicago 5, Illinois.

Dear Dr. Martin:

Your letter of January 29th received. Dr. MacNeish is presently in Mexico. He is expected back in Ottawa early in March. I will see that your letter is brought to his attention at that time.

Yours sincerely,

(Mrs. Vera M. Atkinson)

Secretary.

OTTAWA, March 9th, 1959

Mr. Paul S. Martin,
Chief Curator,
Anthropology Department,
Chicago Natural History Museum,
Roosevelt Road and Lake Shore Drive,
Chicago 5, Illinois.

Dear Paul.

I received your very charming book on your excavations in New Mexico. I really envy your ability to write for the populus in such a pleasing manner. Your book will certainly serve as a wonderful introduction to your work in South Mexico.

Enclosed with this letter is a copy of my report on Tamaulipas which is unfortunately a good deal duller than your lovely book. As you will see, it is on the Sierra de Tamaulipas which had relatively limited remains, and my final opus on Tamaulipas on the Sierra Madre, which had abundant remains, is yet to be completed. But one of these days the American Philosophical Society will be publishing it.

Incidentally, I just got back from Chipias, Mexico, and finished excavating a rock shoulder which contained Pre-Ceramic materials under very early Formative Period ceramics. I have gotten Pod-Pod corn cob. Culturally, these new remains called Santa Marta Phase are a little like my Almagre Phase from Sierra de Tamaulipas.

Hope things are going fine for you at the Museum, and our mess is gradually cleaned up, though it is still not all over.

Sincerely yours,

Richard S. MacNeish.

RSM/mf

CABLE ADDRESS - MUSEUM, CHICAGO

TELEPHONE: WABASH 2-9410

CHICAGO NATURAL HISTORY MUSEUM

FORMERLY FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE SHORE DRIVE

CHICAGO 5, ILLINOIS

24 March 1959

Dr. Richard S. MacNeish
National Museum of Canada
Ottawa, Canada

Dear Scottie:

I was very pleased to read your remarks about my popular book.

I received a copy of the report on Tamaulipas, and yesterday I received one on your work in Manitoba. I appreciate having these very much.

Sincerely yours,

Paul

Paul S. Martin
Chief Curator
Anthropology Department

PSM/s

ADDRESS ALL CORRESPONDENCE, PUBLICATIONS, AND PACKAGES TO
CHICAGO NATURAL HISTORY MUSEUM, CHICAGO 5, ILLINOIS, U.S.A.

OTTAWA, March 10th, 1959

Dr. Paul S. Martin,
Geochronological Laboratories,
University of Arizona,
Tucson, Arizona.

Dear Paul:

Thank you very, very much for returning the identifications of my bone material from Tamaulipas. Dr. Hecht has also sent the box of bones back. It is sure wonderful to see this material finished up. Gradually, everything is coming in and can once again start working up this report. Dr. Sears has the pollen samples and said he should get them done by this spring. Dressler's study seems to be coming slowly and Paul Manglesdorf is out of the country. However, all the rest of the stuff is pretty well all done. Sofar, unlike the Sierra de Tamaulipas, there does not seem to be such a radical change before and after the post-glacial optimum. I still am of the opinion that this is a dry period of Mexico like it is further north in Canada.

Just finished digging a Pre-Ceramic cave in Chipias, Mexico, and around 5,000 years ago we seem to have dry conditions. However, the answer is far from being finished.

Have not received all the results of the Feces study but should get it this week. I have some small amounts of pollen from my excavations in Chipias and if you have time, I would be most glad to have you look at it.

Will write you again as I begin doing further correlations. How do your wife and family like your new abode in Arizona?

Sincerely,

Richard S. MacNeish.

RSM/mf

Ottawa, September 28, 1961.

Dr. Paul S. Martin,
Dept. of Anthropology,
University of Arizona,
Tucson, Arizona.

Dear Paul:

I hope by now you have received a recent publication on our Tehuacan project. We half expected to see you last summer with Smitty when he was with us. The project is actually going extremely well and we have got an almost complete sequence from about 11,000 years ago. Before I left last June, we presented Monica Bopp with pollen profiles from three cave deposits and open site and she is at present working them up and should be done by this winter. The only thing she has revealed so far is that there is some sort of a shift in vegetation about 4,000 years ago, another one around 8,000 years ago.

Smitty went over the plant material we have, which is not so hot, back about 4,000 B.C. and did not note any changes. In other words, everything seems to be all desert. The bean material, which is pretty slim except in the earlier levels, has not been all worked up. This winter we will go back to doing our major excavation tasks and by spring should begin to start our analysis and next year will be all analysis. We would very much like to have you visit us and be able to consult you and Monica, I know, would like to talk over some of the interpretations of the pollen profiles. Do you think you might be able to get to spend some time with us?

Right at present I have applied for more money from National Science and if I get it I might be able to pay your transportation and other expenses.

As you know, I am a demon for field work and am racing to get from one place to another. I am racing to get publications out and every day I seem to fall further and further behind. Recently, I was pawing through my Southwest Tamaulipas material, which I do not think I will get writing up for another year, and went through a frantic search of that page of animal bone identification you did. So far I have not been able to find it and wonder if you have a carbon copy of said list of identifications level by level. If you do I would

appreciate your sending me one and I will make 59 copies so I won't loose it. How are things at Arizona and how did Doug Byers' son work out last summer?

How to see you one of these days and I am forever taking your name in vain particularly concerning the wetness of the post-glacial optimum in southern latitudes. Perhaps in Tehuacan we will get better evidence from Mexico on this.

Best regards,

/cp

R. S. MacNeish.

Ottawa, September 28, 1961.

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Dept. of Anthropology,
University of Arizona,
Tucson, Arizona.

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/cp

R. S. MacNeish.

THE UNIVERSITY OF ARIZONA
TUCSON

GEOCHRONOLOGY LABORATORIES

October 6, 1961

Dr. R. S. MacNeish
Department of Northern Affairs, Human History Branch
National Museum of Canada
Ottawa, Canada

Dear Scotty:

I think I've got somewhere the list of bone identifications on southern Tamaulipas material. Karl Koopman did those and if I can't find them I'm sure he will know what the results were. We also have data which was never written up on weights of different animal bones from different levels in the Tamaulipas caves. You should have this, by all means, before you are writing up the total report. I have it stowed away in a safe place in the bottom of my desk: the write-up should not take very long, but it must be done. I keep putting it off.

Thank you kindly for the Tehuacan paper. I'm very eager to see your site down there and I would be delighted, of course to discuss the pollen results with Monica and anyone else concerned. We are increasingly busy now getting ready for the First Internation Pollen Conference, to be held in Tucson next April. I plan a field excursion to Mexico as part of the conference before the meetings. We will go to Rancho del Cielo from Brownsville and return to Monterey. Afterwards, in the week following, and before the S.A.A. meetings in Tucson, we plan to run a field excursion to various archaeological sites which have been studied for pollen stratigraphy in southern Arizona, New Mexico, and west Texas. Fred Wendorf will help out on that.

However, if you pick a good time for me to go to Tehuacan, I would be strongly tempted to drop everything and go, unless it falls in the month of April or early May.

I just returned from Poland. The INQUA Congress was held in Warsaw. The Polish botanists are doing very good work with their Pleistocene geologists and have compiled a large number of pollen diagrams documenting glacial and inter-glacial climatic conditions. I was less impressed with their cave excavation. Although the digging had been done carefully, I felt they should have left more of a

section for future people to work on, and their interpretations were far too dogmatic to be impressive.

By now you should have my pre-published version of Southwestern Palynology and Prehistory. I tried to muster all the arguments pertinent to the problem of the post-glacial climatic conditions in arid areas. Since we have data from some of Antevs' type localities for the post-pluvial I think we can get right at the matter from the pollen record. It will be very interesting to see what you turn up in Mexico in Tehuacan, a critical point with regard to the Altithermal climatic condition. In southern Arizona I think we can seriously challenge the traditional Antevs-Bryan climatic interpretation. Incidentally, no one has taken me to task for reversing their climatic interpretation of the Altithermal.

Bill Byers is working away on Mesa Verde material; he has some nice pollen sections of check dams which show corn pollen in what must have been tiny little alluviated corn fields.

With best regards, as ever,

Paul

Paul S. Martin
Assistant Professor

PSM:jw

Martin

Tucson!
November 13

Dear Scotty,

The dear old NSF came through; our project on Postglacial pollen Chronology and the Cochise Culture begins in the new year. Meanwhile I will replace Jon Marshall in the Human Genetics course and begin to get acquainted. Marion + the boys arrive Friday. When will you + your wife come on a visit?

By now I assume you have paid Mrs Fagan. If not her home address is: Mrs. Sylvia Fagan, 61-52 Gates Ave., Ridgewood 27, N. Y. I wrote her time in my last letter the rate was $1.25 hour. She will send a bill only if you request it.

Regarding Temps. and Firth River pollen diagrams, I think you could interest Sears, especially in the former. He was definitely interested when I mentioned your Temps. material in September. As you may know he can do no serious microscope work himself; however, his assistants

seem to do the job on more common + easily recognized grains as pine, oak, Compositae, and chenopods. Any profile from Texas will of course be better than none.

If Sears won't, perhaps we will be properly set up within one-two years to process them.

Has Bob Drake written to you? I think $50 or $C would go a long way with him on his small studies, if you have this much.

Sorry to hear the St. Louis Symposium plans look unpromising. If I can be of any help please drop a line. Drexler's objection incidentally is based on his arrival in St. Louis at the MBG. This means we could have an extra travel allowance for someone else.

The set up here in geochronology is confused but looks quite promising. Ted Smiley has made a start on the pollen lab and our grant will equip it properly. By next fall we will be set to take on students from any field. Any prospects with you?

Regent will arrive Sept, would you pass the extra to Tom Lee + Hansen?

As Ever,

Paul

THIS SIDE OF CARD IS FOR ADDRESS

DR. PAUL S. MARTIN
Department of Anthropology
Chicago Natural History Museum
Roosevelt Road and Lake Shore Drive
Chicago 5, Illinois

DEPARTMENT OF ANTHROPOLOGY
CHICAGO NATURAL HISTORY MUSEUM, CHICAGO, U. S. A.

The authors, Paul S. Martin and John B. Rinaldo, herewith send you with their compliments:

Excavations in the Upper Little Colorado Drainage Eastern Arizona

Fieldiana: Anthropology, Volume 51, Number 1

Will you kindly sign and return this card so that the authors may know that this publication has been received by you?

Signature Richard C. MacNeish

Address National Museum of Canada
Ottawa, Ont.

Date

Martin de Porres S. (21) (22) Box 3 / #22

Correspondence April 1953 - May 1959